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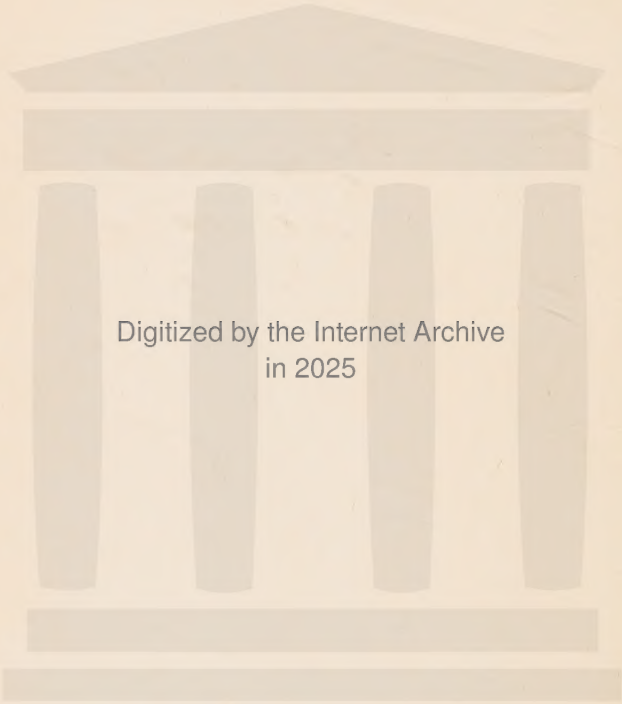
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A STUDY OF RELIGION

MARTINEAU

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A

STUDY OF RELIGION

ITS SOURCES AND CONTENTS

BY

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Πότερον οὖν δὴ ψυχῆς γένος ἐγκρατὲς οὐρανοῦ καὶ γῆς καὶ πάσης τῆς περιόδου γεγονέναι φῶμεν, τὸ φρόνιμον καὶ ἀρετῆς πλῆρες, ἢ τὸ μηδέτερα κεκτημένον;—PLAT. *Legg.* x. 897 B

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IN MEMORY OF AN UNBROKEN FRIENDSHIP

THROUGH THIRTY YEARS' COMPANIONSHIP IN DUTY

AND IN STUDY WITH

JOHN JAMES TAYLER

AND OF THE QUICKENING INFLUENCE

OF HIS RIPE SCHOLARSHIP AND TENDER PIETY

THESE VOLUMES

PREPARED AT HIS DESIRE

AND ANIMATED BY HIS FELLOWSHIP OF SPIRIT

ARE AFFECTIONATELY DEDICATED

TO THE PUPILS

WHOM WE SOUGHT TO HELP ON THEIR WAY

TO WISE AND FAITHFUL LIFE

PREFACE.

I CANNOT better introduce my readers to the main purport of these volumes, than by relating a conversational criticism, by an eminent English Positivist, on a no less eminent American representative of the Spencerian system of thought. Friendly relations had grown up between them, when Professor Fiske, of Harvard, was in this country;—relations, none the less cordial from the tacit assumption, supposed to be warranted by his 'Cosmic Philosophy,' of their common rejection of religious beliefs. On the appearance, in 1884, of his interesting Address to the Concord School of Philosophy, entitled 'The Destiny of Man in the light of his Origin,' a report of its argument, contained in a private letter, was read to his English friend; who listened attentively enough till it came out that the Professor found, in the psychical evolution of Man, an intimation of individual immortality; but *then* broke in with the exclamation,—'What? John Fiske say that? Well; it only proves, what I have always maintained, that you cannot make the slightest concession to metaphysics, without ending in a theology!'—a position, in which the speaker has no doubt been confirmed by the author's second Concord Address, in 1885, on 'the Idea of God.'

A more fortunate criticism there could hardly be: for, if it answers the speaker's end, it certainly secures the author's too; being but the *naive* confession, 'If once you allow yourself to think about the origin and the end of things, you will have to believe in a God and immortality.' The

conditions of the Agnostic case could not be more compendiously stated:—to make it good, you must be careful not to look beyond phenomena, as empirical facts: you must abjure the enquiry into *causes*, and the attempt to trace invisible *issues*: never lift the veil that bounds experience, and you will need nothing and know nothing of a transcendental world.

On the very threshold, therefore, of the 'Study of Religion' we are met by the question, whether this Comtean delimitation of knowledge is correct. This was my reason for entering on the survey of human relations at the *practical* end, and seeking the bases of conduct before penetrating to the roots of thought; allowing 'Ethical Theory' to rest, as long as possible, on experienced psychological facts; and holding back their apparent religious significance for more effectual testing, when their interior contents had been laid bare. And this led me to say, in dismissing the former volumes from my hand, that the Moral Postulates on which their exposition proceeded could be tried only 'in the court of Metaphysics,' and must stand over for a separate hearing.

The cause thus reserved is called on for trial in the First Book of the present 'Study.' But for the promise which I have quoted, I would gladly have spared my readers its intricate and technical pleadings; for I am aware of the tediousness of these metaphysical tribunals; especially when the whole process wins at last, through all its dizzying circuits, only the very position which common sense had assumed at first. For this is all, I take it, that metaphysics can pretend to accomplish by their scrutiny of the ultimate factors of human knowledge. They discover for us that, for all phenomena of experience, we are obliged to supply in thought a transcendental object, as their ground[1]. Think it, we must; but only as the base of that

[1] Wir überhaupt einen transcendentalen Gegenstand den Erscheinungen

relation: believe it, we must; for, if we evict it, the phenomena cling to it and go too: but prove it, we cannot; since it is impossible for thought, however nimble, to leap beyond its own laws, and see, from a foreign station, whether they tell lies. The business of the metaphysician is to assemble, to discriminate, to interpret, these transcendental constants of thought, and show how they deal with its phenomenal material, and organize the relations which form the contents of human knowledge. When for every variable he has named its permanent, his task would be complete, were it not for perverse attempts, on the part of speculative simplifyers, to escape the persistent relativity of nature, by cutting asunder the sides of every duality, in order to make over the monopoly of the universe, either to the phenomenal alone, or to the real alone: telling us, in the former case, how cleverly the phenomena can simulate the aspect of the real; and, in the latter, how the real can dissemble, by masquerading before the human fancy. According to the first, 'the All' is resolved into 'the Many'; according to the second, fused into 'the One.' And so it comes to pass that, while Comte sets up the goal of knowledge at the Laws of Change, Schelling plants it at 'the Absolute.'

This artificial breach between the inseparable terms of a relation is fruitful in illusions; leaving the contents and sciences of experience without their uniting tissue of living thought; and, at the opposite extreme, inflating the Reason to the stretch of a monotonous infinitude, virtually emptied already by preaching the nothingness of all it holds. The distinction between the two factors of knowledge was, for the metaphysician who pointed it out, also their harmony. By an abuse of his method, it has been harassed into an alienation: and he is needed again, to undo the miscon-

zum Grunde legen müssen, ob wir zwar von ihm was er an sich selbst sey, nichts wissen. Kant, Krit. der reinen Vernunft. Rosenkranz, ii. 422.

struction and effect a reconciliation. This he will attempt by a simple regress to the point of first divergency. He will not affect to go a step with either party on his separate way. He will not flatter the one, by offering new proofs of his 'Absolute'; or appease the other, by outbidding him in his valuation of the law of Evolution; and then, having planted their imaginations at opposite foci, try to talk them into a common centre. His task calls for neither invention nor diplomacy. He has only to explain, that antithesis in thought does not involve separation, still less, antagonism in being; that, as all knowledge is of relations, and all relations are dualities, a theory which unifies by sinking a co-ordinate term can land us in nothing but ignorance. By this kind of *critical* metaphysics alone, interpreting the text of the law of Reason, have I endeavoured to save such constants of human thought as are essential to religious belief, and have suffered of late from sceptical disparagement. Two of these have sufficed for the end in view,—the intuition of *Causality*, as the ground of Natural phenomena, and that of *Right*, as the ground of Moral; the one planting the Intellect, and the other the Conscience, face to face with the Eternal Source of wisdom and righteousness. If it be true that such 'Metaphysics are sure to end in a Theology,' it is not that they piece together new artifices of masonry for its support, but only that they watch the lines of hostile approach to its foundation, and countermine them, ere any harm is done. At least, to such defensive work alone, of simply clearing and guarding the rock-base of natural faith, are these volumes devoted.

For much of the Agnosticism of the age, the Gnosticism of theologians is undeniably responsible. They have inconsiderately overstrained the language of religion till its meaning breaks: and the coherent thinker easily picks up its ruins to show that they can contain nothing. Whoever

calls God by names of highest abstraction, such as 'the Absolute,' 'the Great *I Am*,' for the very purpose of placing Him beyond comparison,—as pure *Thesis*, without *Antithesis* or *Synthesis*,—exposes himself at once to the proof that such a Being can never come into human apprehension at all; and will be reproached for his ignorance of 'the relativity of knowledge,' which denies all access to 'things in themselves.' The critic's rebuke is well-deserved; and if he intends by it no more than that God, *so far forth as unrelated*, is unknown, he should have thanks for his correction. But if he means to suggest, that what is only relatively known is, on that account, *unknown*, he simply repeats the error of the theologian and raises it to a higher power, by insisting, not only that an absolute object *may be* cognizable, but that, in order to be cognizable, it *must be* absolute. He is working against the whole force of his own doctrine of relativity, until he learns that both terms of a relation are known together, instead of each plunging the other into the dark. As well might he maintain that the interdependence of double stars precludes each from finding the presence and the path of the other. Nay, his implication is even suicidal: for, if an object is shut out from knowledge by standing as one term of a relation, the 'Substance' or 'Cause,' of which we are thus said to be quite ignorant, is in no worse plight than the correlative 'phenomenon' or 'effect,' with which we are invited to cultivate exclusive acquaintance: and an Eleatic agnosticism of change is a valid reply to a Protagorean agnosticism of entity. When the sophists of opposite type, having converted one another, become logical enough to believe in neither term, the time perhaps will have come for the healthy human mind to trust again its natural faith in both.

Of the two sources of Religion unfolded in these volumes, each has encountered antipathy and rejection from one of

the representative minds of the present century. Comte was for expunging the language and the idea of Causality; Bentham, for ridding us of the phraseology and accepted meaning of Moral Obligation. Had the two aversions coexisted, a total desiccation of religion would, I suppose, have naturally ensued. But, by a happy exemption, each of the two men retained the element discarded by the other, and, under its influence, was upheld in some of the pieties of character which usually need a less scanty faith. Comte, though without any adequate base for his ideal of Right, was strongly possessed by moral sentiment and aspiration, freely resorted to the vocabulary of Duty and all its dependent conceptions, and was so susceptible to the higher qualities of character as to make his reverence for the possibilities of Humanity serve him as a Religion. Bentham, though finding only hedonist utility in Ethics, developing them simply from human self-love, and always irritated by the suggestion of any authority beyond, yet had no quarrel with the logic of Causation, and was carried by it from the Order to the Divine Ordainer of the world. The humanism of the one, and the Deism of the other, are but weak residual forms of natural reverence. Already, the experience of their imperfection has largely provoked a rejection of both, and reduced the Religion of life to a blank. Ere *this* experiment has proceeded far on its perilous way, perhaps the two dissevered sources may repent of their disunion, and a reharmonized human nature find itself once more in a universe and a communion that are Divine.

I have not been deterred from vindicating the Teleological interpretation of nature, by the opprobrious treatment or, at best, condescending excuse, which seems to be deemed 'the right thing' for the 'Argument from Design.' 'Advanced thought' also, like dress and manners, is not without its fashions and its fops; and many a scientific

sciolist who would bear himself '*comme il faut*' towards such questionable deceivers as 'Final Causes,' now thinks it necessary to have his fling at 'Paley and the Bridgewater Treatises.' He has it on the best authority that Darwin has exposed their imposture; and he must show that he is not going to fall into their trap. It is probable that, of those who speak in this tone, nine out of ten have never read the books with which they deal so flippantly; and it is certain that the tenth is incompetent to grasp the essentials of an argument, while letting its separable accidents fall away. No doubt, the doctrine, prevalent in Paley's time, of impassable limits of species, the immature condition of chemical and biological science, detaining the mind in too great dependence on mechanical conceptions, the darkness in which the geological record of the earth was still wrapped, the narrow limits of Time within which both natural and human history were assumed to be compressed, presented to his imagination a world variously different from ours; incomparably smaller; divided into autonomous, though confederated, provinces, needing, through the detachment of their products, a much greater multitude of Divine projects and volitions, amounting in effect to so many separate creations. But that these crude conceptions have any advantage over their successors, as claimants of design, that any expression of Mind which was present to Paley is lost to us, it is impossible to affirm. The great difference lies in the substitution of development for paroxysm of initiation. And this 'Evolution,' whatever its extent, is not a Cause, or even a Force, but a *Method*, which might be the path, either of a voluntary cause or of a blind force, and has nothing to say to the controversy between them. If there were design before, so is there now: if not, then has none been added. But, on the other hand, if marks of Thought were truly found before, they have now become marks of larger and sublimer thought;

all that was detached having passed into coherence, so that one intellectual organism embraces the whole, from the animalcule in a dewdrop to the birth and death of worlds. I see no reason to doubt that Paley would have welcomed the new theory of organic life upon the globe, as a magnificent expansion of his idea. He did not, I presume, regard the Creator as having, virtually, taken out an independent Patent for every so-called species, to be jealously guarded from all encroachment. And if only the inter-relation could have been shown to him between type and type of being, as we are taught to see it now, he would not have been slow to feel the grander meaning of the vaster family encompassed by one providing thought.

Professor Fiske has devoted a very attractive monograph, under the title 'The Idea of God,' to an exposition of the order of nature according to the doctrine of Evolution, in its religious bearings. He insists, with evident truth, that 'the whole scheme is Teleological, and each single act in it has a teleological meaning'[1];—a description, which absolutely identifies it, upon its Theistic side, with Paley's theorem, viz. that the constitution of nature, wherever we can read its story, betrays the evident direction of events upon a consummating end. Yet the Author, far from feeling that he is only annotating and illustrating Paley, turns upon him with the surprising remark, 'Herein lies the reason why the theory so quickly *destroyed that of Paley*!' In the same slighting tone he repeatedly refers to Paley's method as 'proved inadequate,' as 'anthropomorphic,' as unwarrantably attributing 'purpose' to God; so that the reader seems to hear the voice of a believer in mere blind causation. I own my inability to reconcile 'teleology' with the denial of 'purpose.' If it be not the theory which explains the prior acts of a series as deter-

[1] The Idea of God as affected by Modern Knowledge. London, Macmillan, 1885, p. 161.

mined by the preconception of a posterior, I know not what it means. Nor is any light thrown upon what is to take the place of the expelled 'design' by the evasive language now substituted for Paley's manly speech. We must on no account read 'purpose' in the make of things and the story of the world: but 'a well-marked *dramatic tendency*' is discernible throughout. We are not to imagine a really contemplated end in view: but we cannot fail to notice 'a clearly marked progress of events towards a *mighty goal*,'—'a working together of all things, through boundless ages of toil and trouble, towards one *glorious consummation*.'[1] We may not predicate rational and intending thought, of the supreme 'Cosmic Power': but we may affirm 'the essential reasonableness of the universe,' and mark 'the meaning there is in the orderly sequence of events.'[2] And, in virtue of these things, we may admit, in the infinite and eternal 'animating principle,' '*a quasi-psychical*' nature[3]. Beyond this we cannot go.

These are enigmatical phrases, till some explicit interpretation is given of the distinction which they pretend to draw. We need to be told, whether there can be a 'well-marked dramatic tendency,' conducting to a regular '*dénouement*,' without any plan or design; what sort of 'mighty goal' it is, which is not kept in view and at which no one aims, what 'glorious consummation' which crowns no system preconceived; what 'meaning' can lie in an order of things which is the expression of no thought; what 'reasonableness' can belong to the constitution of a universe wrought out by no rational insight and foresight; and, finally, whether, in the 'psychical principle' the Universal ψυχή exceeds its proper limits and borrows any νοῦς, or whether, being only '*quasi*-psychical,' it even falls a little short of its own definition, and remains on the

[1] The Idea of God as affected by Modern Knowledge, p. 159.
[2] Ibid. pp. 138, 139. [3] Ibid. p. 151.

confines of the animal standard. To the first of these questions alone do I find some semblance of an answer in the following sentence: 'While the dramatic tendency cannot be regarded as indicative of purpose, in the limited anthropomorphic sense, it is still, as I said before, the objective aspect of that which, when regarded on its subjective side, we call purpose.'[1] So far then as it misses the predicate '*purpose*,' it is because it has no 'subjective side'; which means, I suppose, has *no place in a conscious mind*, as the condition of its 'objective existence.'

I cannot but wonder that a thinker so strong and a writer so clear and picturesque, as Professor Fiske, should find any satisfactory shelter for his religious faith and feeling under this frail tissue of teleological language. It is an attempt, in the supposed interests of conciliation and justice, to say and unsay the same propositions, without becoming conscious of inconsistency. But between contradictories it is vain to seek for intermediaries; and the false promises of vague phraseology are sure to betray themselves in the disappointments of experience. Reason has been brought, by its long evolution, to a very resolute constitution, finally attached to its abode on *terra firma*: and it is too late to treat it as an amphibious creature, willing to try existence, now on the land and now in the water. The escape from conscious self-contradiction is managed by an illusory application of what are called 'symbolic conceptions.' These are familiar enough to us in the case of large or collective objects of perception, which our thoughts cannot at a glance embrace as a whole, but to which we can refer, and be referred, by a word naming them, either by some characteristic properties, or by some individual sample: the word *stands for* the rest, without having them in its definition. Here, *that which it symbolizes* is really and distinctly in our thought, because it

[1] Ibid. Preface, p. xxiv.

is something which has been put there by experience and has only to be revived. But when it is said that, in predicating of God attributes of which we have cognizance in ourselves, the terms denoting them are to be stripped of their 'anthropomorphic sense' and take on 'a symbolical,' because the human attribute belongs to a finite, the Divine to an infinite nature, the case is totally different. For, what we lay aside is *all the meaning that we know*, and behind the symbol retained there stands nothing but blank darkness. Representing what cannot possibly have place in human thought, the word is empty of meaning altogether. That out of such propositions of pure nescience any one can find even the phantom of a Religion emerge, is a singular proof how irresistible are the needs of human faith and affection, and how modest becomes the silence of Reason in their presence.

The volumes with which I here part variously conflict, I am well aware, with the prevailing opinions and tendencies of the time. The approbation which, on this account, they must forego, will at all events be replaced by the more wholesome benefit of correction and disarming of their errors. Possibly, there may yet be a minority, among persons accustomed to reflect on the questions here discussed, who may find in them the satisfaction of fellowship, if not some clearing and confirmation of conviction; and be encouraged, through mere force of sympathy, to cherish and vindicate the deep and simple pieties on which the sanctity of life depends.

THE POLCHAR, ROTHIEMURCHUS,
Oct. 24, 1887.

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A STUDY OF RELIGION;

ITS SOURCES AND CONTENTS.

INTRODUCTION.

I. What is Religion?

The word 'Religion' is here used in the sense which it invariably bore half a century ago; and a reader whose conceptions are cast in the moulds of that time will know what to expect from an enquiry into its 'Sources and Contents.' Understanding by 'Religion' belief in an Ever-living God, that is, a Divine Mind and Will ruling the Universe and holding Moral relations with mankind, he will hope, on the one hand, to be led to the innermost seat of this belief in the constitution of human nature; and, on the other, to see developed from it the dependent varieties of thought implicit in so fruitful a germ, and the cognate truths attached to it by collateral relations. Along just these paths of reflective insight, viz. first, to the secret birth-points of conscious religion, and then, to the survey of its interior volume and applied lights, it is the purpose of this 'Study' to conduct him, so far as mere critical scrutiny can avail in a matter not wholly intellectual. In the soul of Religion, the apprehension of truth and the enthusiasm of devotion inseparably blend: and in proportion as either is deserted by the other, the conditions of right judgment fail. The state of mind in which they coexist may present itself under either of two forms, sharply distinguished in the language of our older writers. If it be reached by reflection on the

order of the physical and moral world, it is called '*Natural* Religion'; if it arises without conscious elaboration of thought, and is assigned to immediate communication from the Divine Spirit to the human, it is called '*Supernatural* Religion.'

The central faith in the Supreme Mind is usually attended by several satellite beliefs (e.g. in a life beyond death), which are all allowed shelter under the term *Religion*. When regarded apart from these, the primary conviction is known as *Theism*; the rejection or absence of which has, accordingly, appropriated the negative word *Atheism*.

This nomenclature, recommended by its simplicity and precision, has such complete possession of our standard literature, that no serious change in it can be made without deplorable confusion. Yet various causes have of late created an obvious disaffection towards it. However adequate it may have been to mark off from each other the modes of thought hitherto prevailing, new states of mind have now arisen of which, we are assured, it gives no accurate account; on which, indeed, its classification cannot be forced without rudeness and offence. The vocabulary of theology which was invented for the exigencies of Christendom, and which provided each of its components and opponents with a fitting name, proves too narrow for our wider knowledge of foreign faiths: as may be plainly seen when, in Buddhism, we come across a religion without a god. Not that we need go to the far East in quest of so strange a phenomenon; we have only to open a recent volume of a popular monthly review, and we are present at a memorable single combat between Mr. Herbert Spencer and Mr. Frederick Harrison for the prize of the best religion that dispenses with anything Divine. The changes, at first insensible, which have at last affected the meaning of important words in their very essence, and are now demanding formal recognition, need to be distinctly stated and estimated at the outset of our enquiries.

Religion, in the old sense above explained, was at once

a mode of thought and a mode of feeling; nor does it matter to their indissoluble union which of the two you put into the prior place; whether you trust first the instinct of intuitive reverence, and see the reality of God emerge as its postulate; or whether, having intellectually judged that He is there, you surrender yourself to the awe and love of that infinite presence. These intense affections, rich in elements of wonder, admiration, reverence, culminate in worship; and, breaking thus into visible expression, reveal to others the invisible faith to which they inseparably belong. It is only our artificial analysis that separates the two, and insists on calling the intellectual side of the fact a *theology*, the affectional a *religion*. Thence we lose sight of the fact that they are not two things, any more than the convex and the concave surface of a curve, but only two aspects of the same thing; and are tempted to think of each as possibly existing without the other, and so to look around us for a religion that may sit apart from all theology. If every awakening of wonder, admiration, or reverence, is to be called *Religion*, we need not go far to find it; for in the gaining of knowledge we have the first, in the perception of beauty the second, in the presence of higher character the third. So far as the last is concerned, it may be freely admitted that the sentiment of reverence is really homogeneous, whether it be directed upon simply human excellence far above our own, or upon the highest of all in the absolutely Perfect. It was not without a true feeling that the Latins covered by the single word *pietas* the venerating affection whence springs the right attitude towards superiors human and divine. Moral attributes, being the same for the whole hierarchy of minds, are of necessity contemplated with feelings not dissimilar, on whatever part of the scale they are seen; and it is precisely in the experience and history of the Conscience that (as shown in a former exposition of ethical theory[1]) we find the germ and secret implication of a transcendent piety.

[1] Types of Ethical Theory, vol. II.

Of this affinity between the earthly and heavenly forms of inward homage advantage is now taken to persuade us that the essence of Religion is complete in the first alone; that its theologic crown is a superfluous addition, and that it suffers no fatal loss, though the universe should contain no spiritual being higher than man. There is enough, it is said, in the nobler samples of humanity, in the vindicators of right, in the saviours of nations, the purifiers of private life, the martyrs of truth, to kindle the fervours of aspiration, and bring us to their feet as devotees:—and is not this religion? Nay, a still wider scope is given to the conception, by taking away the *moral* limits which fix it upon character alone. *Beauty* also sets the heart aglow with its fascination, and inspires a passionate pursuit, though presented by objects ethically neutral. And the scientific interpretation of the world, the deciphering of order in its dispositions and events, the contemplation of its environing immensity and eternity, attract and subdue the intellectual observer with an indescribable sense of sublime humility. When all these experiences are thrown into one lot, by cancelling their differences, and are set forth as the contents of Religion, it becomes, and is defined, 'Habitual and permanent admiration[1],' and retains its august pretensions, on whatever object it may fasten, whether dead or alive. *Every* form of enthusiasm, be it of Science, of Art, of Morals, thus suffices to constitute a religion[2], though it should look upon the universe as a mere aggregate of coexisting and successive phenomena[3], with nothing beyond, within, behind, or before them but still other phenomena ad infinitum. Nor are we to consider it any infringement of religion to deny the presence and agency, among these phenomena, of any ordering Mind, and to suppose that self-conscious intelligence and will have first emerged in the development of the human race. Such denial is perfectly consistent with the recognition of *Law*, i.e. determinate order among phenomena; and

[1] Natural Religion, 1882; ch. iv. p. 74.
[2] Ibid. i. p. 3. [3] Ibid. iii. p. 45.

so long as any shred of law remains recognised, religion is saved[1], though there be no legislator but blind necessity.

This watering down of the meaning of the word *Religion*, so as to dilute it to the quality of the thinnest enthusiasm, would be less confusing, if it openly washed away with it and discharged all the theological terms which it empties of significance. But the reader, to his great surprise, is told that this reduced religion is still *Theism*; that it is wrong to regard as an *atheist* one who sees in nature no trace of ordering mind; and that such a one, in his bare recognition of law or regularity anywhere, still has his God. For, to the man of Science, for whom the cosmos is all in all, the word '*God* is merely a synonym for nature[2]': the laws of nature are 'laws of God'; and in the field of nature he stands as if 'in the presence of an infinite and eternal being,' nay, a 'divine being'; so that he is as truly a theist as one who bends down in prayer. There might be some excuse for this paradoxical statement, if its author were dealing with the *Poet's* personification of nature as an infinite organism, looking with deepest expression into the human soul; for this conception does really, for the moment, both unify and animate the world, and brighten up its face as with a flash of inner meaning from beneath its form; and, while this vision lasts, there is a transient immanence of mind with which the seer may commune. But, the assertion is expressly made of that lowest view of nature which, like Comte's, rids the observer of all ideas of causality or power, and resolves the All into phenomena, related only in time and place, in resemblance and difference, and simply grouped into sets under these heads. The deification of such bundles of facts (and 'laws' are nothing else), the transference of the name *God* to the sum of them, the recognition of their study as *Theism*, involve a degradation of language and a confusion of thought, which are truly surprising in the distinguished author of 'Natural Religion.' The subversion of established meanings for

[1] Natural Religion, ch. ii. pp. 27, 43. [2] Ibid. iii. p. 45.

familiar terms is already begun in the very title of his book: by 'Natural Religion' has hitherto been understood '*what may be known of the invisible God through the things which he has made, even his everlasting power and divinity*[1]'; but here it means, instead of the teachings of nature about God, the *substitution of nature for God*, the actual dispensing from thought of everything but nature, and the attempt to concentrate upon it the affections previously reserved for him: in other words, *nature-worship* in place of *divine worship*. If it be true that the title of a book carries in it a virtual promise, it cannot fitly consist of a phrase employed in an unheard-of sense.

Had the author fully realised what the absolute merging of God in the phenomenal order of the world amounts to, I hardly think he would have made a present of the dialect of theology to the investigator of physical laws. He would then have felt that it was impossible to invent a combination of terms more definitely and unconditionally negativing the possibility of God, than the statement that there is nothing to be known but coexistences and successions of phenomena; for it were too poor a mockery to hand over the divine name to any assemblage of massed and echeloned phenomena as such. Nature, it is probable, presented itself to the author's imagination not in this bare positivist aspect, of laws without source, of order without idea, of multiplicity without unity of thought, but as the medium in which alone their Source, their Idea, their all-embracing Subject could be sought and approached; and accordingly he speaks of nature as the 'complete and only *manifestation* of God'; thus, with apparent unconsciousness, contradicting his own statement that nature is *identical* with God; for the acts and changes which contribute to the manifestation are not the manifesting subject, but its subservient instrument of expression. If this is so, it is simply *the immanence of God in nature*, his living energy in its powers, his habits in its steadfast laws, which the author has in

[1] Rom. i. 20.

view, and on which he dwells as the sole and sufficient school of divine knowledge; in contradistinction from what he repudiates under the name of 'supernaturalism,' i.e. miraculous events supposed to be interpolated, as means of Revelation, in the midst of the regularity of the world. His attention is wholly occupied with the alternative of miracles or laws, as exponents of the ultimate and eternal secret of the universe; and he never doubts that, on the rejection of the first, he is left alone with the second: that there is no other home where anything sacred can be found; and that since this is nothing else than the realm of nature, beyond nature, or 'supernatural,' nothing can be. It is a fallacious inference. If we were simply classifying phenomena, certainly the author's bifurcate division would hold good: they must come about either conformably, or inconformably, with some given rule: they would be either natural, or extra-natural: the affirmation of the one would be the negation of the other. But the question whether 'Nature' (in the sense of *all that happens*) is indeed the totality of existence, is a question not between one mode of happening and another, but between all happenings and the never-happening whence they come, between the time event and its eternal ground, between the phenomenal sum, from end to end, and the non-phenomenal presence without which they cannot emerge into thought at all. Change has no meaning, and no possibility, but in relation to the permanent, which is its prior condition; and pile up as you may your 'coexistent and successive' mutabilities, that patient eternal abides behind, and receives an everlasting witness from them, whether heeded or unguessed. Here it is, in this intellectual presupposition of any emerging world, this prior condition of the natural, that we meet a persistent 'supernatural,' in the idea of which the very essence of the religious problem lies, and without reference to which the order of nature can tell us of nothing but itself; for God is not there. Nature therefore can never swallow up the supernatural, any more than time can

swallow up eternity: they subsist and are intelligible only together; and nothing can be more mistaken than to treat them as mutually exclusive. It is no hindrance to theology, if the laws of phenomena pursue their undeviating way: it is no hindrance to science, if the laws of nature are laws of God; the matter of both studies is furnished by the same relation; only taken up at the opposite ends, so as to render explicit in each case the term which is implicit in the other.

But though there is no '*antagonism*' between them, *antithesis* there certainly is; and nothing can be more misleading than to say that 'God is merely a synonym for nature.' The attributes of nature are birth, growth, and death; God can never begin or cease to be: nature is an aggregate of effects; God is the universal cause: nature is an assemblage of objects; God is the infinite Subject of which they are the expression: nature is the organism of intelligibles; God is the eternal intellect itself. Cut these pairs asunder; take away the unchangeable, the causal, the manifesting Subject, the originating Thought; and what is then left is indeed 'Nature,' but, thus bereft and alone, is the negation and not the 'synonym' of God. And so, I am constrained to deny the antagonism which our author affirms; and to affirm the antithesis which he denies.

A further instance of the confusion arising from the proposed remoulding of well-defined terms will render our appreciation of it still clearer. As, in order to be a theist, the only condition is that you should, somewhere or other, find a bit of regularity in the succession of events, you would apparently earn the name by listening for thunder after lightning, or throwing paper into the fire to be burned. With the qualifications reduced so low, it would seem hardly possible to escape from the category; and the search for an atheist becomes, one would think, more hopeless, with even the best of lanterns, than the search of Diogenes for an honest man. Perhaps then this is just the conclusion to which our author intends to lead, viz. that the species

being extinct, the name is superseded and may be erased from the language. But no: consistent as this would be, and accordant with the limp tendencies of our age, it is not the course which commends itself to the author. He determines to keep the atheist among survivals still; but, in order to do so, supplies him with a new definition, or set of characteristics by which he may be known. Setting aside the disbelief of order as 'a mere speculative crotchet' on which it is needless to dwell, he finds 'the real atheism' not in any opinion, but in a certain form of temper and character. It is 'another name,' he says, '*for feebleness*,' induced by three causes, viz. (1) by *wilfulness*, or exaggeration of the human efficiency against the resistance of the world; leading to vain and passionate self-precipitation upon Titanic enterprises barred by fate and ending in destruction: (2) by excessive *caution*, that, for want of acquaintance with nature's larger laws, ventures no step beyond the range of partial or proximate experience, and is paralysed by the hidden power of the universe: (3) by the *cynical* mood incident to a crumbling faith and a decaying Church, passing through the stages of anxious doubt, of compromised sincerity, of conventional conformity, of mutual distrust among associates, till all secure anchorage is lost, and the life drifts at the mercy of the currents and the winds[1]. These several states of mind are finely described and illustrated; and if by 'feebleness' be meant any kind of failure, all may be accepted as examples of it; though it is evident that in the first case, of the presumptuous *impotens*, the failure is due to *baffled* energy, while in that of the over-circumspect, it is due to *defective* energy, to which alone the word 'feeble' properly applies. But what, except in the third case, have they to do with Atheism? Is every rash man who dares what is beyond his strength, and is struck down by superior force, an atheist? and also every timid man, who underrates his possibilities, and keeps within the safe enclosure of petty things? Is this the

[1] Natural Religion, ch. ii. pp. 27–35.

classification which we must make of the Polish nation, adduced by the author as his instance of the first; and of the Mahommedans, who are his representatives of the second? Is it that the author, identifying God with Nature, looks upon every distrust or misplaced trust of the laws of nature as tantamount to blindness towards God? Then, till the whole of nature on which action and character are based is read through and through, all would be atheists together; for, short of this, the condition is not reached of that accurate prediction, which excludes temerity and timidity alike. Atheism, no doubt, is 'feeble'; and the heroisms which illuminate the course of history and regenerate the life of nations are, for the most part, the products and embodiment of Faith; and this is doubtless the antithesis which was present to our author's mind. But it is one thing to say that atheism is feeble; it is another, that feebleness is atheism; and the attempt to disparage and spoil the word as the name of a theological denial, yet save it as the designation of a certain type of moral character and disposition, forfeits what we want for the sake of what we can well spare.

On the whole, then, I cannot reconcile myself to the proposed rhetorical extension of the word *Religion*, with all the altered meanings which it involves for the connected group of terms. The motives which recommend the suggested change deserve, no doubt, acknowledgment and sympathy. On the one hand, it is a pathetic thing to see how hard it is for the human soul to let its religion go; to watch how those who, from loss of the infinite Father, find themselves in an orphaned universe, would fain attempt compensation by worshipping either each other, or even, while its sacred look yet lingers, the mere scene where he was, and persuade themselves that it is still the same piety, though they stand alone and no one reads their heart or hears their orisons. On the other hand, it is a generous impulse which leads large-minded men, themselves perhaps emerging from terrible crises of thought, to be tender

towards like sufferers, and make the least rather than the most of the still doubtful issue. The hatred of denunciation and anathema, the desire to diffuse a calm clear air and a sweet light through the halls of controversy, so that the scientist from his observatory and the artist from his studio may enter them without sense of repulsive change, the fear of letting an utter alienation grow up between the intellectual and the spiritual elements of modern civilisation, are laudable and reasonable pleas for a quiet docility and modest respect in settling the relations between knowledge and religion. The broader the common ground which you can define, the better; provided you do not lay down upon your map a territory which no traveller can discover and no foot has ever trod. That however is an irremovable condition, which no catholicity of temper can charm from its place. The disputes between science and faith can no more be closed by inventing 'religions of culture,' than the boundary quarrels of nations by setting up neutral provinces in the air.

Heartily as I would welcome the enthusiasms for knowledge and for art, as well as for Right, into the circle of religious affinities, and recognise in their noblest representatives an inspiration akin to that of genuine piety; emphatically therefore as I deny that there is any uncongeniality between the modern culture and the ancient sanctities, I yet must hold that, in the order of dependence, these minor forms of devoutness hang upon the major; and that if we are to give them a home in the widened category of Religion, it must be as children of the house and not as wielding its supreme authority. Their functions are sacred, because concerned with a universe already consecrate by a Divine presence, gleaming through all its order and loveliness: suppose its inner meaning gone, let its truth be only useful and its beauty only pleasant, and would any lofty genius be taken captive by them, and bow before them? Rightly enough are the man of science and the true artist called ministering priests of nature: but this they could

not be, unless nature were a temple filled with God. If there be no sanctuary and no Shekinah there, there is no inner meaning for them to interpret; and the account of it is complete in the measure of its proportions and the inventory of its contents. If you place me face to face, not with an infinite living spirit, but only with what is called '*the Great Necessity*,' what 'enthusiasm' do you expect the vision to excite? Can there be a more paralysing spectacle? and shall I fling myself with passionate devotion into the arms of that ghastly physical giant? It is impossible: homage to an automaton-universe is no better than mummy-worship would be to one who has known what it is to love and trust, and embrace the living friend. In short, a human soul so placed would itself be higher than aught it knows within the immensity, and could worship nothing there without idolatry. Even if it turns its gaze within instead of without, and, conscious of its littleness, forms the preconception of more knowledge, of purer beauty, of larger and deeper goodness, still, though it looks up to these, it is but as possibilities for itself, and not as the eternal realities of the universe, the law of its laws, the light of its loveliness, the pledge of its ends; and, amid all the sickly talk about 'ideals' which has become the commonplace of our age, it is well to remember that, so long as they are dreams of future possibility, and not faiths in present realities, so long as they are a mere self-painting of the yearning spirit, and not its personal surrender to immediate communion with an Infinite Perfection, they have no more solidity or steadiness than floating air-bubbles, gay in the sunshine, and broken by the passing wind. You do not so much as touch the threshold of religion, so long as you are detained by the phantoms of your thought: the very gate of entrance to it, the moment of its new birth, is the discovery that your gleaming ideal is the everlasting Real, no transient brush of a fancied angel wing, but the abiding presence and persuasion of the Soul of souls: short of this there is *no*

object given you, and you have not even reached the specified point of '*admiration*.' Within the limits of pure sincerity, no one can *worship* either a nature beneath him or an idea within him: however big may be the one, though it comprise all forces and all stars, if that be all, it will be venerable to no spirit that can comprehend it: and however fine may be the other, if it be but a dreamer's image, a phenomenon of perishable consciousness, it can never be more than the personality that has it, so as to make him its suppliant.

The definition of religion as 'habitual and permanent admiration' can hardly be intended for any rigorous application. Like the frequent identification in devotional literature of all goodness with *Love*, it forgets to take account of the *object* on which the feeling is directed, and on the worth of which the whole character and place of the feeling depend. To love amiss is no evidence of goodness; and it is possible so to admire as to contradict the very essence of religion. Is there any more 'habitual and permanent admiration' than that of the handsome fop —the Beau Brummel or Count d'Orsay of his day—for his own person, as he stands before the mirror; and he is only a more visible example of many varieties of self complacency and self-homage equally sincere; and surely no temper of mind is more utterly closed against the tender reverence and abnegating service which religion inspires. It would therefore be necessary, if this definition were not relinquished, to stipulate that the object of admiration should be something other than ourselves. That condition is no doubt fulfilled by the Positivists' calendar, which gathers into one view the nobles and martyrs of history, and leaves no day of the year without its tribute of celebration; and I shall not challenge the right of this commemorative discipline to call itself a 'religion of humanity.' It does rest essentially upon reverent affection, not, on the whole, unwisely and unworthily directed; and if it were possible for human souls to illuminate and uphold

each other, without any central orb to give them their reflected light and determine their dependent paths, this ritual might be something more than a melancholy mimicry of a higher conception. But place it beside the Catholic constellation of the saints; and though its component stars are often of greater magnitude, you see at once that, as a whole, it is a minor worship made grotesque by being thrust into the place of the Supreme. Its attitude is retrospective, gazing into the Night of ages gone: the other has its face to the east, and anticipates the dawn: it is a requiem for the dead; the other is a communion with the ever-living, an anthem in tune with a choir invisible: it anxiously seeks and puts together the doubtful traits and broken features of figures irrecoverably lost: the other only waits a little while for the venerated teacher or the dear saint to be the companion that shall die no more. The secret dependence of all satellite forms of piety upon the grander, and at last upon the solar attraction, cannot be slighted without the fatal collapse of every problem we attempt. Guard your canonisations as you may, take only the fairest specimens of character where it seems to blossom into all the virtues, cull and combine them with blameless skill, yet they are memorials of what was and is not, and make but a funeral wreath borrowed from one grave to be cast upon another.

The author of 'Natural Religion' earnestly desires to heal the breach between what is called the 'culture' of our time and the inherited faith with which it seems so little congenial. It is a noble aim, worked out with impressive persuasion and illustrated by episodes of the finest criticism. With his main purpose, and with the greater part of his subsidiary estimates of history and literature, I go with enthusiastic assent. But against the essential principle of his method, viz. that the anti-theological notions being accepted as facts and left as they are, lodgings shall be found for them within the vocabulary of religion, so that each leading term shall mean what it has hitherto repudiated and be at a loss

for its own antithesis, I cannot but seriously protest. A God that is merely nature, a Theism without God, a Religion forfeited only by the 'nil admirari,' can never reconcile the secular and the devout, the Pagan and the Christian mind. You vainly propose an εἰρηνικὸν by corruption of a word. The moment the device is put to the test, the antipathic elements which you have brought together spring asunder with more aversion than ever. Can you expect, for instance, that one to whom the whole essence of religion consists in conscious personal relations with a Divine Spirit, and who cannot live apart from that ever-present Friend, should consent to reduce this experience to a secondary position, and feel still a religious fellowship with his neighbour who deems it all a dream? The most you can demand is that each should respect the conscientious belief of the other, and refrain from expressed or implied reproach. But the alienation of sympathy is inevitable; and, resting upon real differences, is beyond the reach of verbal fusion.

For these reasons, I retain the old meanings of the chief theologic terms, and decline to loosen their precision; and by Religion I understand the believer's worship of Supreme Mind and Will, directing the universe and holding moral relations with human life. This I state as *its essence*; but whatever this essence may either necessarily carry as a consequence, or, with the collateral aid of other evidence, may justify us in accepting as true, will also find its place under the category of religion.

II. Why Ethics before Religion.

The enquiries on which we are now entering have been preceded[1] by a treatment of ethical theory, the results of which will here be assumed as known. This order of exposition undoubtedly implies that I do not regard moral rules as depending upon prior religious belief; and that I do regard the consciousness of duty as an originating con-

[1] In Types of Ethical Theory, two vols. 1885.

dition of religion. In adopting this order, however, I do not mean to set up one exclusive source for the faiths and worships of mankind; or to contradict any enquirer who may trace their genesis to the 'idea of the infinite,' or the 'sense of absolute dependence,' or the startling impressions of external nature, or the memory of ancestors, or the images of dreams. In the absence of any experience which can test such hypotheses, they must remain speculations neither verified nor disproved; and the chief objection to them is, that the advocate of each is apt to claim the whole phenomenon as his own, and to suppose that his favourite source must be the only one. This is an unwarrantable assumption. Nothing forbids us to recognise in our nature more causes than one of the beliefs and affections embodied in worship; and the strongly contrasted types of creed, mythology and ritual, which have coexisted in the world, are more simply accounted for by distinct initiation than by divergent development. As I do not wish to 'speak evil of dignities,' I will not disparage the resources of the so-called 'science of religions' for ultimately determining this question. But meanwhile we have some psychological knowledge of the springs and varieties of religious conception in ourselves; and there seems no reason why we should neglect to consult these indications of experience as to the lines of tendency that pass from our own nature to feel after the Divine. If we live in union or affinity with God at all, it must be in several relations, not in one alone; for our being is complex, and must touch his at every point. We suffer, we think, we will; what we feel is the pressure of his laws; what we know is the order of his reality; what we choose is from his possibilities: and how can there fail to be a path to him from the sensitive, the intellectual, and the moral passages of our history?

If however the first of these were there alone, we should indeed be his creatures, but know it not: the dependent relation would be complete, yet in the dark to us, as to any animal that shares it with us. Not till the second function

comes upon the scene, and we are set up as self-distinguishing subjects, does the first function step into the light, and show us what we feel; and with this self-conscious reading of our own experience comes the discovery of its order and the conception of its cause. If the experience which we contemplate is only that which we passively receive, either from without or from the instinctive forces within, we shall be aware of ourselves simply as parts of nature, just as the sheep upon the hills would do, if they could see themselves in the mirror of reflection. Of such a nature the Reason would find an adequate cause in a simply *thinking Necessity*, turning out idea into being at each step of consecutive inference; and behind or within the phenomena nothing would be recognised as operative but a conscious immensity of Science, the archetype of the system registered in visible characters throughout space, and now construed back into thought by man. Such a conception would certainly fall under the category of Religion; but would barely save its essence, presented in the leanest condition, without any resource for investing it with fresh plenitude or grace. The defect can be removed only by quitting these side-chapels of our inner temple and resorting to the high altar of our *Moral* experience. There, a new type of relation bursts upon us. It is only as *Objects* in the known world that we are parts of nature: only as disposed of by it that it can claim us: but, as *Subjects* that know it, as *Agents* that withstand and conquer it, determining its course *this* way rather than *that*, we are not of it, but above it, not in the chain of its effects, but transcending their position as a Cause; for it is absurd to say that one of the phenomena known can be the knower of them all, that one of the necessitated links can have free choice of what shall follow from itself. In the moral consciousness therefore there enters a kind of dependence on the universal Cause unfelt before; a dependence not for what we have to suffer, or are driven to do, but for what lines of self-determination it is open to us to take; our datum is not a factor already settled

for us, but an alternative left to be settled by ourselves: the conditions are given: the solution is to be found. We are thus partners in the transaction; not in servitude, as tools or creatures wielded by another hand, but taken into counsel, with the adoption of sons. Such investiture with selective power introduces at once relations of trust, of living affection, of possible sympathy, of possible alienation: the Divine proposer of the choice makes no secret of his own preference; but in order that, on becoming ours as well, it may constitute a true spiritual tie uniting us with him, he refrains from imposing it as inevitable, and would have us make it our own by unconstrained assent. It is out of the vast enrichment which these conceptions add to the inner contents of life in its contact with Divine things that Religion gains its deepest problems and its intensest power: that both God and man emerge into thought as something more than nature: that the Science which knows the actual ceases to be supreme, and becomes ancillary to the insight which anticipates the possible: that Righteousness ascends to the throne in heaven, and Duty is owned as sacred upon earth. Hence it is that Ethics must be treated before Religion: not that they are an absolute condition of its beginning: not that they always involve it as their end; but that they implicitly contain the resources whence Religion, in the higher form which alone we can practically care to test, derives its availing characteristics, its difficulties, and its glories.

The points of interconnection between Ethics and Religion are perhaps most clearly seen when we try to realize what each would be when set up for itself apart from the other. Theism may undoubtedly announce itself as a purely ontological doctrine, justified by the impossibility of a universe of phenomena, without some substantive being whence they proceed; and though philosophers have sometimes been content to identify that substantive being with matter, the cosmical order has usually led to the recognition of an intellectual power as the disposer and sustainer

of the universal frame. Whether regarded as standing to the world in the relation of substance to attribute, or in that of Designer to his product, such a being needs nothing to fulfil these conditions but *thought and power*. He either lays down laws of coexistence and succession, or evolves them from his own essence, and sets in order the catena of means for their unswerving execution. If, among the creatures ruled by these laws, we were on the field, with all our present capacities except the consciousness of moral distinction in our impulses; if then we discovered that this neutrality of ours was not shared by our Maker, and that, in order to encourage in us one set of affections rather than another, he had attached pleasures to the former and pains to the latter; this knowledge would undoubtedly make it our wisdom to conform to his purpose, just as it is wiser to take a profit rather than incur a loss: but should we be conscious of any *guilt* in doing otherwise? should we have gone against anything but our own interests and a superior power? Clearly not. We should have no answer to one who pointed out our imprudence; but, if he charged us with *sin*, we could only reply 'We know not what you mean.' Where the *ground* of a command is present only to the legislator's mind and has no place in the natures on which the law is imposed, the requirement remains arbitrary, and the obedience external; that obedience expresses no *character*, beyond mere prudence; nor can a government of living beings conducted on this method alone ever much transcend in its results the movements of a flock of sheep driven by the shepherd's dogs. Religion then, as the bare belief in Divine omnipotence administering universal law, cannot institute a Duty or provide us with a possibility of Morals: the 'sanctions' of happiness and misery, though magnified to infinity and prolonged to eternity, are in themselves unavailing to distinguish the angels of heaven from those of hell, except as the wise from the foolish virgins. Without an internal enactment in the soul, to which the external mandate brings its appeal, the consciousness of

Right is impossible, and the human world is susceptible of government only as a menagerie.

Take the converse case, and observe the difference. If we start from our own psychological experience alone, without assumption or speculation respecting the universe around, we meet there, at a very early stage, with ethical elements, involving the idea and furnishing the rule of duty. Childhood itself, small as are its concerns, is full of its moral enthusiasms and indignations, quick with its shame and compunction, bright with its self-approval; and with all its heedlessness betrays every day the inner working and the eager growth of Conscience. This order of feeling, personal and sympathetic, does not wait for the lessons of the religious instructor and the conception of the universe as under Divine administration: on the contrary, it is the condition on which such teaching depends for its efficacy; and is present, where no theological sequel is ever appended to it. The profound sense of the authority and even sacredness of the moral law is often conspicuous among men whose thoughts apparently never turn to superhuman things, but who are penetrated by a secret worship of honour, truth, and right. Were this noble state of mind brought out of its impulsive state and made to unfold its implicit contents, it would indeed (as I have endeavoured elsewhere to show) reveal a source higher than human nature for the august authority of righteousness. But it is undeniable that that authority may be felt, where it is not seen,—felt *as if it were* the mandate of a Perfect Will, while yet there is no overt recognition of such Will: i. e. conscience may act as human, before it is discovered to be divine. To the agent himself its whole history may seem to lie in his own personality and his visible social relations; and it shall nevertheless serve as his oracle, though it be hid from him *who* it is that utters it. The moral consciousness, while thus pausing short of its complete development, fulfils the conditions of responsible life, and makes character real and the virtues possible. Ethics therefore have prac-

tical existence and operation prior to any explicit religious belief: the law of right is inwoven with the very tissue of our nature, and throbs in the movements of our experience; it cannot be escaped by anyone till he can fly from himself. Did we even imagine that we came out of nothing, and went back into nothing, and had ties only with one another, still, so long as we are what we are, our life must take form from its own germ, and grow and ramify into moral commonwealths.

Do not these statements, however, threaten religion with a very startling humiliation? If it is incapable of creating morals, and if morals are secure of themselves and can dispense with it, what function remains for it? What affinity associates the two agencies? And in what direction does the passage lie, along which influence may flow from the one to the other?

1. The simply ethical conscience, with its intuition of what *ought to be* beyond anything *that is*, has contact with a mystery to which it conforms without consciously quitting the ground of commonplace. To be blind to any solemn significance in this experience is to carry an arrested humanity. If this *ought* is a fact, it is a very curious one: it is not, like other facts, *in Time*: it is no phenomenon, past or present: it has never been seen or otherwise perceived: it is predicable of no actual existence: it is no objective property: nor is there any nameable category of empirical reality under which it can be brought. It can be affirmed of nothing that comes as a link in the chain of necessary sequence; but only of a possibility, where more than one is present. It refers therefore only to the future and uncreated, that is still determinable by some free will. It is not the agent's foresight of what will be; nor is it anything of his own making, which he can unmake or alter. Nor is it *information*, passing from the knowing to the ignorant; it is *commandment*, speaking in the imperative, and instantly owned as a perfect word, coming whence sovereign tones have a right to flow.

Hence there is no sincere power to challenge that peremptory voice: the whole personality secretly kneels before it. Here then is revealed not simply the thought of one mind, but the relation between two; both, the seat of the same conscious moral order; the one, its infinite Archetype, the other, the finite image, made susceptible of appeal and of response. Till the peculiarity of the moral consciousness is thus followed out to its natural issue in religion, it environs us with a haunting realm of *possibilities*, with 'ideals' of righteousness, which indefinitely grow, and oppress us with a *quasi-infinitude*, wholly unsecured as anything more than a subjective vision that may be baulked of all reality. There is a stage in the history of the conscience, when it reaches its fulness of feeling without yet being new-born into faith; and it can no longer be content with the plainness of the near duty and the little zone of light at hand, through pressure of an infinite but dark horizon of the unattained closing in upon it from beyond. Stunted natures may stop short of this stage, and be complacent with their good habits: else, the mystery, once felt, must not rest idly upon the heart; for, while it merely broods with its dead weight, it becomes either a helpless sense of sin or a hopeless reverie of aspiration: how can the lonely human will lift 'this mountain' and 'cast it into the sea'? But, as soon as the other side of the relation is apprehended, the loneliness ceases:—'Lo! God is here, and I knew it not'; the vision of Perfection is no dream; and the tremulous purpose has an infinite ally. The self-strain is exchanged for self-surrender; and the hovering cloud of possibilities which covered the soul with gloom bursts into heavenly light. We may compare the change, under some variation in the analogy, with that which Kant[1] describes as subsisting between the aspect which life would have for us if our nature came to an end with the data of Sense and Understanding, and that which it actually presents to us, as modified by the additional

[1] Krit. der reinen Vernunft. Rosenkranz und Schubert, ii. 196.

faculty of Reason. Limited to the narrower endowment, we should be wholly engaged in the apprehension and ordering of phenomena and their laws, and should be content with these, and from the absence of any ideas beyond, should treat them as *our world*. That world, however, by decree of nature itself, is only *an island*, though it is for us the sole seat of experience, where we measure the definite things that exist or happen, so as to build up *Sciences*; yet Reason no sooner visits us, than we find it lying in the midst of a vast ocean, whose waves for ever break upon the shore, and on whose expanse loom mysterious objects that may be habitable lands, or mere cloud-banks, or melting ice. It is the boundless girdle of the possible that thus embraces all our actual; the murmuring and unresting deep of what may be and ought to be; and from the moment of its opening upon our view we long to navigate it and bring home reports of what lies within or beyond it; nor do repeated failures avail to quench the inextinguishable hope. Though Kant deemed the exploration impossible to the Speculative Reason, what he had dismissed as its illusions he received back as realities on the authority of the Practical Reason; so that I do him no violence if, neglecting his obsolete division of faculties, I treat his transcendent world as not inaccessible to rational belief; and then we may apply his illustration strictly to the development of the conscience. It is no doubt possible, so long as it is shut up within the routine of life, for it to remain quite unaware of any relations beyond this circle, and work within it as a complete and rounded whole; but, when the moral eye loses the films of habit and attains to spiritual vision, the life of present duty reveals itself as an insular element of a more comprehensive sphere, and assures us of boundless affinities and a communion unseen. Ethics therefore, on their outer margin, bring us face to face with the momentous question, whether their supreme intimations are verifiable, and their relations eternal.

2. If this question is decided in the negative, not only is the passage into religion cut off as illusory, but the retreat back within the shelter of simple authoritative Morals is rendered impossible. The life of conscience may be one either of childlike trust, or of divine insight; but to quit the first, and fail of the second, is to become an exile and a wanderer. Ask for no credentials, and you will have clear guidance: scrutinise its imperial claims, and persuade yourself that they are *ultra vires*, and you will listen to them only where they are within the limits of your wish. A sovereign title must either be perfect, or good for nothing; and against a detected pretender there can be no high treason. If, on close inspection, you find in your moral consciousness nothing to excuse the portentous tones in which it speaks; if you attribute their impressiveness to the survival of a misplaced trust or an early superstition, you will resent it as a cheat, and set to work to rationalize and reduce your code. There is but one result possible. If, among the acts of the will, there is for you no better and worse *per se*, if right wins no allegiance from you *on its own account*, and you will insist on discovering some other quality that *makes it* right, you have bespoken your place in the school of Epicurus; for sentient good and moral good make up together all that is eligible in human life; and when once you treat the second as dependent, it becomes of necessity a satellite of the first. Hence it is that Ethics must either perfect themselves in religion, or disintegrate themselves into Hedonism; and that there is an inevitable gravitation in all anti-theological thinkers to the 'greatest happiness' doctrine. The attempts to construct intermediate theories have only shown, by their instability, the irresistible logical tendency to the single line of cleavage, which puts religious thought on the one side, and the eudaemonist on the other. Should then Kant's great ocean either prove to be an inhospitable waste, or, defying our courage and skill to cross, refuse to tell us what sunnier lands and ampler skies may

spread beyond, it will only remain for us to return inland, out of hearing of its waves, and raise what fruits we can from our island's scanty soil, asking no more from our span of space and time than to minimize its ill.

3. If, on the other hand, the question is decided in the affirmative, and the infinite seas are ours no less than the rocky nest which they embrace; if the voices heard in the soul come to it on winds that cross the deep, and do indeed tell of an everlasting sympathy with the faithful and disinterested will; if our *action* alone is tied to this spot, but our love is at home either here or there,—the whole spirit and character of Duty becomes transformed. It was not indeed a hard necessity before, yielded-to simply because we *must*; for instead of being reluctant it was self-accepted, adopted with assent, because we *ought*; but still there was a weight to lift; we had to remove out of the way another wish; and in the felt imperative which demanded this there was a mystery which made its power seem to issue from the dark. It was a sacred cloud, without form or living feature, which approached us and uttered a bidding as it passed; and we obeyed, with reverence for we knew not what. *Now*, this impersonal pressure breaks its secret, and avows itself as the persuasive warning of One who would have us 'holy as He is holy'; and not only is this new vision equivalent to the apparition of the universe unveiled, but the response which conforms to it springs forth with the free enthusiasm of personal affection, unburdened by any weight. If the moral consciousness be, in very truth, a communion between the Divine and the human mind, it remains inchoate and one-sided only so long as God's part in it is unseen; the moment the mists are gone, it completes itself in the conscious answer of the worshipper; and the relation, which was always in existence, is now reciprocal in thought. Prior to this crowning recognition, the life of the faithful soul is the life of Law, shrinking from the forbidden ill, and compelling itself to the ordered good, not indeed from servile fears,

not perhaps without a certain zeal for some favourite conviction or abstract cause, but aided only by the limited dynamics of rigid conscientiousness and truth to itself. But with the opening of the heavens, a great redemption comes, and by presenting an infinite object of personal affection, converts the life of Duty into the life of Love, and reinforces the individual will by the 'Spirit that beareth witness with our spirit, that we are children of God.' The point of contact between Ethics and Religion is thus analogous to that between the bondage of the Law and the freedom of the Gospel.

4. When through this point of contact the transition has been effected to the spiritual life, the moral world has gained an immense expansion. The rule of right, the symmetries of character, the requirements of perfection, are no provincialisms of this planet: they are known among the stars: they reign beyond Orion and the Southern Cross: they are wherever the universal Spirit is; and no subject mind, though it fly on one track for ever, can escape beyond their bounds. Just as the arrival of light from deeps that extinguish parallax bears witness to the same ether there that vibrates here, and its spectrum reports that one chemistry spans the interval, so does the law of righteousness spring from its earthly base and embrace the empire of the heavens, the moment it becomes a communion between the heart of man and the life of God. Not only does it thus pass, as already pointed out, from our 'ideal' to the veritable real, but the reality it wins is stupendous in its scale, planted in the seats and following in the paths of all self-conscious spirits, coextensive with the Divine free agency. By such identification with the all-originating mind, it no less declares itself eternal than omnipresent: inherent in his essence, and therefore objectively put forth and instituted by his Will, for the assimilation of dependent and growing spirits to his own. The emergence of the dutiful relations into these dimensions is surely no slight change: it makes a difference

whether the conscience is listened to as the wayside notice of a village oracle, or as a living voice from the sacrarium of the universe. And only when the true hierarchy of the affections has set into this sublimer form, will the character cease to be fluid, and show the steadfastness of the martyr, with a stature more than human and a sweetness like that of Christ. Is there any enthusiasm of goodness that can be excessive or unnatural in those who realise what it is to be, in very truth, 'children of God'? If, as a native of Tarsus, the Apostle could not help saying with a glow of pride that he was 'a citizen of no mean city,' how is it possible, without a flush of higher joy, for anyone to know himself a denizen of the city and commonwealth of God? —a community whose service is simple righteousness, and whose patriotism an inextinguishable love of perfection.

5. One further result springs up at the point where Ethics become transcendent and constitute the relation between man and God. The world is thenceforward conceived as under moral administration, and natural law is expected to bear trace of a moral idea. In a Being recognised as the central impersonation of righteousness it is impossible to suppose it subordinate to anything else: from their very nature all *un*moral ends must yield to the ascendency of the moral conditions. Hence the religion of conscience goes to the great order of nature with the preconception that all its dispositions will be compatible with justice and beneficence, treating no sentient creature with cruelty, and all responsible agents according to their deserts. Under this preconception, attention would particularly fix on the allotment of pleasure and pain; for chiefly through them is it possible to give proportionate expression to the approval or disapproval of a judicial mind. What then is the general impression left by this new outlook upon the world? Without entering as yet into the interior of its problems, it is well to notice at least whereabouts they lie.

A certain portion of the good and evil of life answers

well, in its distribution, to the moral anticipation, and falls where it is deserved. Besides the anguish of remorse, which is directly incident to guilt, the miseries of unhappy temper and ill-will, of alienation from others, of failure and despondency, of perplexity and ennui, are all referable to ethical disorder in the mind: nor is there any human instinct or affection which can either yield its own place or arrogate another's, without inducing the pangs and weakness of distortion. Of the physical disturbances of our well-being, an incalculable proportion is incurred by self-indulgence and the waste of energy which it entails and perhaps transmits; and even of unsuspected disasters the causal ignorance is often wilful, though the intentions be clear. Through the whole range of these self-incurred penalties, the inner moral sense and the outer divine scene are in accord, and the thought secreted in the constitution of things seems but the echo or the original of our own. And great is the gain when some large lot of pain, that would else torture our sympathies by its aspect of indifference or cruelty, comes to be thus touched with new and ideal meanings which lift it at once into a higher plane, as an instrument of the sublimest end. If only this end,—the realizing of absolute justice and the beatification of perfect character,—can be similarly shown to swallow up all the remaining sufferings of the known world, the moral idea, in becoming transcendent, will have proved adequate to all demands, and the pessimist, having received his answer, may be requested to retire.

It is by no means possible, however, to transfer the entire residue of painful experiences from the class of purely sensitive to that of ethical phenomena. Not all diseases, not all incapacities, are self-induced, or even visited upon ancestral sins. Convulsions of the earth's crust, the sweep of the tornado over sea and land, the baffling surprises of drought and frost and flood, and many another startling event, which may be regularities in nature, are yet unearned catastrophes for man; and all the at-

tempts to bring them, under the name of 'judgments,' into the moral category, are too futile to need reply. The boundary line between the responsible and the irresponsible classes of experience may no doubt be plausibly shifted a little this way or that; but that a large territory will anyhow remain where the Law of Right does not appoint the executive, is beyond dispute. What account may reasonably be given of its facts will be in due time considered: at present I would only point out that here we find the religious function of the moral consciousness at the end of its resources; it has no competency beyond. This limit against which it strikes in no way impairs its validity in its previous application; it leaves its authority untouched within its own proper bounds; it simply marks its inadequacy to deal with an appendix of ulterior problems. As the sufferings from involuntary causes cannot be retributory, some other account of them must be sought: either they have *no ends* in view, and refuse to be brought into teleology at all; or else they are directed upon some *unmoral* end, and are seen in their true place only as incidents in a physical or intellectual order, upon which a moral order is superinduced, or with which it is concurrent.

At the same time the religion of conscience, which encounters the check of this limit, is not without means of softening, if not neutralizing, its effects. If the moral relations revealed in our consciousness are the ectypal miniatures of eternal realities in God, it is impossible not to raise the question of their duration in us; for there is something incongruous in supposing that a communion on our part with an eternal being, in respect of eternal verities central to his essence, should have just begun to know itself for what it is, and then be extinguished. Hence the immortality which the conscience assigns to moral relations it could not avoid expecting for itself; so as to throw open the gates of death and indefinitely prolong the story of human existence. That vaster world once coming into view, there is no telling what boundless reserve of rectifying pos-

sibilities it contains for completing the incipient but unfinished justice of the present life, and for compensating the sacrifices demanded by unmoral though indispensable laws. It is easy to visit with derision this way of postponing to an unknown future the solution of known difficulties in the present, and to insist that the lame justice of what we see is a poor reason for expecting a perfect justice in the unseen. But certain it is that, in the mixed experiences of this life, those which plainly affirm a moral rule impress us more deeply than those which are silent of it and will not tell their tale: so that of the one the report is believed, of the other the enigma remains; and the part of which we are assured by its living witness in ourselves becomes the sample and foretaste of whatever sequel the further evolution of our nature may bring. The real light-sphere of conscience is not quenched by a limiting zone of darkness which it cannot penetrate; and when its glow kindles faith in a state whence limits disappear, it must needs be the light that moves forward till there is no darkness at all. In every age ethically noble, the grief is keenest at every failure of right, and yet the despair of right will be the least possible; and the secret stores of the eternal world will be held in reserve to redress the unequal incidence of natural ills, and harmonize the issues of life with the holiness of God.

At this final point of contact then between Ethics and Religion there arises a certain check to their concurrence; the former cannot, by becoming transcendent, so pass into the other as to permeate it throughout. Yet, precisely on this account, it opens up the conception and belief in a life beyond the present, which else would hardly have acquired the same distinctness and tenacity. Here we touch, I believe, the link of final connection between Theism and the belief in a hereafter. Apart from the question of the moral government of God, and the painful lacunæ in it which the conscience at present feels, the doctrine of a future life would become a mere episode of anthropology, and would

have to be tested by the methods of natural history and physiology. Judged in this way (as it now often is), it would hardly present data worthy of serious attention ; nor would it, even if rendered credible, belong more specifically to religion than the fact of birth into this life. The evidence and the interest of this faith alike depend not only upon a pre-existing Theism, but upon the moral relation between man and God, and the need of somehow adjusting this to the order of the natural world.

BOOK I.

THE LIMITS OF HUMAN INTELLIGENCE CONSIDERED.

INTRODUCTION.

Unsettled Boundaries.

Πάλιν δὴ οὖν ἐξ ἀρχῆς, ὦ Θεαίτητε, ὅ τί ποτ' ἐστὶν ἐπιστήμη, πειρῶ λέγειν· ὡς δ' οὐχ οἷός τ' εἶ, μηδέποτ' εἴπῃς. ἐὰν γὰρ θεὸς ἐθέλῃ καὶ ἀνδρίζῃ, οἷός τ' ἔσει.—Plato, *Theæt.* 151 D.

If we have named the true links of connection between Ethics and Religion, we may see at once within what limits Morality may be transformed by ascending into Piety. It is not altered in its form, or the adjustment of its contents; but simply carries over its old organism into its new life: for the springs of action stand on the same steps as before in the hierarchy of authority. Nor is there any revolution in its detailed application; for its canon of consequences stands as it did, and if new fields are opened to it, they retain the same proportions. The difference lies (1) In the vast enlargement of dimensions throughout the whole scale, rendering what was empirical, transcendent; turning the subjective miniature into an objective infinitude, as the picture on the retina's sensitive spot becomes in perception the vault of heaven, and each prick of light overhangs us as a star; and so, intensifying the sublimity, while preserving the gradations, of our feeling. Our imme-

diate lot may be small as the vicissitudes of a baby-house; but its laws are not trivial, if they reduce in photograph the legislation of the universal empire; (2) In the conversion of some springs of action, viz. the *Sentiments* (wonder, admiration, reverence) from impersonal impulses into personal affections; and their consequent assumption of a far more definite and deeper power, manifesting itself in distinct acts of religious expression, such as prayer, and all the usages of church life; (3) In the appearance, therefore, upon the face of the world, of a large class of new moral facts for estimate, viz. all ecclesiastical phenomena, and every expenditure of human zeal and interest for objects directly religious. These form a clear addition to the activities and products of the Will, and alter the whole contour of every historical and actual society. If we did not make the advance beyond the moral law, we should be disqualified for taking them into account. If, making the advance into religion, we found it an illusion, we should condemn them as a grievous waste of life in delirious dreams. If we pronounced the religious surmises justified, we should trace in this field, amid many pathetic aberrations, some of the sublimest expressions of conscience, and nearest approaches to the perfection of our nature.

But, however clear the points of approximation between morals and religion, and however great our interest in accomplishing the transition, it were vain to map out their lines of relation, if we can only stand upon the brink and look at the passage, without the foot to leap it, or the wing to fly, or the machinery to bridge the abyss. And this, it is well known, is a favourite modern allegation, sanctioned by many leaders of scientific opinion in England and on the Continent. From the very approaches to our enquiry we are driven by a notice that there is no way through. It is not denied that there may be habitable land, divine and fair, beyond. Perhaps there is; perhaps there is not: but at all events we can never know, for its only possible objects are out of all relation to our faculties, and intrinsically in-

cognisable by us. It is fitting indeed to stand with a certain reverence in face of that hiding-place of possibility; but to say nothing, since nothing can be ascertained,—a rule which recalls the maxim of Sextus the Pythagorean, Σοφὸς ἀνὴρ καὶ σιγῶν τὸν θεὸν τιμᾷ, εἰδὼς καὶ διὰ τί σιγᾷ [1]. This doctrine of Nescience professes to be the result of an exhaustive scrutiny of the cognitive faculties, and an exact measurement of their resources against the objects to which they may address themselves. These processes of psychological stock-taking we have apparently as much reason to dread as the mismanaging director to shrink from the audit of his accounts; for, somehow, they are always disclosing bad debts, and reducing our intellectual capital nearer to bankruptcy. Each successive critique of the human mind contrives to detect some new incapacity in place of a supposed knowledge. Locke, as a Nominalist, denies to us all access to the essences of things, and to all our general ideas, with the doubtful exception of *Substance*, any corresponding ground in the nature of things [2]. Hume removes the exception, and with it invalidates the idea of personality, and resolves Causation into customary sequence. Berkeley cancels from our knowledge the whole material world, and leaves us cognisant only of ideas. Kant reduces Space and Time, Causality and Substance, the ideas of a permanent Soul, of moral Freedom, of a God transcending the world, to subjective forms of sense or thought, which can be guarantee for no reality; though, by an act rather of faith than of inference, he reinstates as practical postulates a portion of what he has lost as speculative conclusions, and so repairs the most serious breaches made by his own criticism. But again, there are admirers of his genius who treat these reconstructions as an inconsequence, and are not content to let them stand. Hamilton insists that,

[1] Sextus Pythagoræus, ap. Fragmenta Philosophorum Græcorum: F. G. Mullachius, 1860, i. 522.

[2] Human Understanding, Book II. ch. xxiii, §§ 1, 2, 29, 30; Book IV. §§ 5, 11, and Letter I. to the Bishop of Worcester; the cautious language of which seems to me to warrant the doubt which I have expressed.

having once treated the Reason as incompetent in its speculative inspiration, he could not consistently give it his confidence in its practical assumptions[1]. And Schopenhauer complains that Kant, even in the second edition of his treatise on the pure Reason, and much more in his later writings, shrank from the thorough idealism which pervades the first draught, and made artificial provision for the return of beliefs from which he had withdrawn the grounds[2]. This partial recoil in Kant is attributed by his censor to the timidity of the aged philosopher, who was unprepared for the uproar which his transcendental scepticism had created in the church and in the schools, and who made his peace with them by giving back in his moral critique the entities of psychology and of divinity, with which he had made such havoc in his analysis of knowledge. Certain it is that, except in the incomplete cases of Locke and Berkeley, the result of all these researches into the ultimate laws of thought is to banish into the unknown the essential objects of religious belief, and to justify the decree against them on the ground that they are empty forms illegitimately turned into objective realities. This despair of religious knowledge must be encountered at the outset, for if it be well founded, every step of advance can only take us farther astray; and if it be unfounded, it leaves us, like a victim of the black art, imprisoned within a magic circle which, though needing but a breath to blow it away, we cannot pass; in a world whose chief relations are cut off in the midst and quenched in fatal darkness; with mind adjusted to the finite, as if that were all, and heart that has no ideal except what is not real, with a clinging sense of dependence, and nothing but necessity to depend upon. We cannot afford either to enter a Paradise of fools or to miss any Heaven of the wise, and must pause and guard our steps where the ways divide.

[1] Discussions on Philosophy and Literature, &c. p. 91, note.

[2] Die Welt als Wille und Vorstellung, 3te Auflage, Band I. Anhang, especially pp. 514 seqq.

CHAPTER I.

Form and Conditions of Knowledge.

. . . so wie wir überhaupt einen transcendentalen Gegenstand den Erscheinungen in Gedanken zum Grunde legen müssen, ob wir zwar von ihm, was er an sich selbst sey, nichts wissen.—Kant, *Kr. d. rein. Vern.* ii. 424.

How are we to pronounce upon the alleged limitations to our possible intelligence? In the very act of criticising them, do I not already contradict them? If there is no knowing whether I know, how can I know the boundaries of my knowledge? If I can tell nothing but that I have this feeling and that thought, and am permanently shut up within this cell of inner consciousness, how can I, the dreamer, draw the line between the dream that never breaks and the waking that never comes? On the assumptions of these philosophers, no investigation of the range and validity of our intellectual apprehension of things is possible, for, *ab initio*, we are enclosed by definition in self-knowledge, and forbidden to apply the terms of cognition to anything out of the time-series of our own states. When this postulate has been laid down, and allowed to pass unchallenged, the whole work of the sceptical philosophy is done; the result is securely the same, on whatever lines the ulterior psychology may advance; whether, with the English school, it works out everything in the mental history from the data of sensation; or, with Kant, tries to discriminate between these and the *a priori* conditions that lie in the mind itself and are brought by it to its experience. The first precaution, in any attempt to find what knowledge may be, is to keep clear of this postulate, not indeed with a prejudgment

against it, but with a refusal to adopt it, till the means of deciding on its merits present themselves in the course of our research.

§ 1. *Varieties of Consciousness distinguished.*

Knowing is a condition, and an active condition, of the mind, and what it is and what it is not must be learned by psychological search, asking ourselves what we mean by it. We shall best get hold of it by calling up its nearest kindred, and one by one turning them out and shutting the door upon them. It is different from *Feeling* and from *Will*, also conditions of the mind; from the latter, by the absence of preference and effort directed upon a future end; from the former, by the presence of an object as well as the existence of a certain mode of consciousness. Both these differences are expressed if we say that it is a kind of *Thinking*.

Thinking is impossible without thinking of something. It is a single act with a pair of factors: a subject that thinks; an object that is thought; and carries in it therefore whatever conditions are indispensable to this distinction. It is the characteristic of the thinking subject to be always *here*, and always *now*; and nothing can stand in antithesis to it as its object which is not removed from it either into a *there*, or into a *then*: in order to exercise my thought, I must direct it on something either different in place from myself, as the person, the book, the diagram before me, or different in time, as last night's dream, or the conjecture that occurred to me a moment ago. Without Space and Time, therefore, no objectivity; without objectivity, no thinking; without thinking, no knowing.

Not all thinking, however, amounts to knowing. I may 'give the reins,' as it is said, 'to Fancy,' and without wholly forgetting myself, may let the trains of images play across my mind, whether in spontaneous suggestion or marshalled for me by the novelist or poet; and in this state I should fulfil the conditions of thinking just assigned, without any

pretension to proper knowledge. It is less easy than might be supposed to discriminate by proper marks such imaginations from cognitive states; especially as, in their extreme case, that of our dreams, the distinction seems to vanish, and we believe in the objective reality of the mind's scenery, and experience all the effects of assured conviction. Hamilton[1] cites from Abel the case of a young man (a poor apprentice to a merchant), who, after a fit of catalepsy, dreamed every night that he was a married man, the father of a family, and a senator, in affluent circumstances; and who, when his actual life was mentioned to him as he slept, declared it to be a dream. If this complete change of fact and fancy can take place, why, it may be asked, do we not habitually believe our imaginative trains? and how can we tell them from the presentation of the actual? What is to prevent us from accepting the scenes of Othello or Ivanhoe as history? Perhaps the principle of the answer lies in this—that in direct perception, where objects are presented immediately and now, the evidence of objective reality, moment by moment, and apart from experiments made by our activity, lies in the vividness and exclusive presence of a given image; and that this evidence will always carry the day where there is nothing to contradict it. In the ordinary use of the senses, it is there of its own accord; and is confirmed by whatever experiments it sets us upon instituting. In dreams it is no less cogently with us; the representations are vivid, and they are alone; and as we are stretched in passiveness, we are at their mercy, without power of questioning them: the conditions of presentation are therefore successfully simulated, and our experience is indistinguishable from the case of waking perception. The imitation is less perfect in the witnessing of a drama or the reading of a poem, from the inevitable conflict between what is presented to the waking senses and what is represented to the excited mind; but, as we know, it is quite possible for the keenness and brilliancy of the latter to overpower and

[1] Lectures on Metaphysics, ii. p. 270.

virtually lay to sleep the tamer solicitations of the former, so that we lose our actual life in the ideal; and the illusion is more complete in proportion as the fiction moves in a *possible present*, not too difficult to substitute for the world in which we live. But this vividness, which can thus cheat us about the present, can never impose upon us *about the past*; for that is known to us, if personal, by memory, if not personal, by testimony; neither of which can be simulated by mere bright painting. If we were carried away, therefore, by the graphic art of an historical novelist, the effect would be, not that we should believe the story true for the past, but that we should believe ourselves in the midst of it at the present. Lively representation puts on the mask, not of testimonial evidence by which other times and distant scenes are known, but of our own perceptions which tell us what is here and now. It may paint, therefore, but not narrate. As a mode of thinking, imagination can be mistaken for only immediate or perceptive knowledge; and can carry the semblance only until the real perceptions awake and withdraw the disguise. In another way mere representation falls short of knowing; viz. that it may consist of a single objective image—the face of an absent friend, the sound of a flowing river, the pressure of a violent wind; whereas all knowledge has two terms objective to us, one of which is subject of the other, and must take the predicative form, as, 'the moon is full,' 'the sea is salt.' It is true that we sometimes talk of having cognition of a single thing before us, or feeling within us; but unless there be more than simply suffering the feeling or being exposed to the thing we do not get beyond sensation; and we *cognise* neither till we attend to it as *our object*, and, supplying the *Ego* as a second term, think '*I perceive the thing*,' '*I have the feeling*.' The mental act consists in referring the thing contemplated to myself—to my outward sense in the one case, to my inner consciousness in the other; or, what is equivalent, in referring it to a position in exterior space in the one case, in interior time in the other. In order to do this I must contemplate

not only that which is before me or within me, but myself also as affected by it; and, besides the subjective Ego which cognises, there must be an objective Ego to which I refer the perceptive or sensitive phenomenon. We might express the same analysis in yet another way. To have cognition of a single object means to recognise it as a reality, or to affirm *existence* of it. And what do we mean by saying that a thing exists? We mean that it is present in space, or time, or both; i.e. that it is at least a possible object of our perception or self-consciousness. The rule, therefore, stands without exception, that no mode of thinking amounts to knowledge but one, viz. the predicative; which, for distinction's sake, we call *judging*.

It is plain, however, that *not all judging* amounts to knowledge; else there would be no error. Only when the mind's predications reproduce in thought the relations which exist in reality, do they constitute knowledge. To secure this condition we must have access to reality, and be able to compare its relations with their supposed reproduction in our affirming thought. Whether such access is granted or denied us is therefore the question on which depends our power of discriminating true from false; and as it is answered more easily in the case of some predicated relations than of others, we must divide judgments into classes on this ground, beginning with those that present the least difficulty.

§ 2. *Analytic and Synthetic Judgments.*

The first class consists of what Kant[1] calls *Analytic* judgments; where the *object* of our thought (i. e. the subject of the proposition) is some concept of our own (embodied in a noun common), of which is affirmed in the predicate some one or the whole of its contents. If I say, for instance, 'water is a liquid,' 'matter is extended,' 'the circle has a centre,' the property which I affirm is

[1] Logik, § 36. Rosenkranz und Schubert, iii. S. 294.

already contained in the very meaning of the subject; and I merely bring into explicit view what is implicitly thought in that meaning. Such a proposition only takes to pieces the comprehension of its own subject, and so earns the designation '*analytical*.' And its truth is secured, if it conforms to the so-called 'law of Identity,' viz. that it names nothing in its predicate which is absent from the meaning of the subject: within these limits it may name all the characters comprised in the concept (*Subject is* $x+y+z$, &c.), or any selection from them (*Subject is* $x+z$). Throughout this class, it is plain, the *object* of thought and speech is a concept which the speaker has at home in his own mind: to know what it connotes, he has but to consult his self-consciousness, and compel its lazy experience to unpack its contents and spread them out side by side with the specified particulars of the predicate.

Of a single analytical proposition the truth or falsehood is thus read immediately at a glance. By combining a plurality in which the same concepts recur, a mediate variety of criterion is contrived by the logicians. In the case of two judgments with the same subject, one must not affirm what the other denies; if in one the subject is pronounced $= x+y+z$, no one of these characters must be denied of it in the other;—a rule which receives the name of the 'Law of contradiction.' It tests the truth of neither proposition, but merely says that they cannot both be true.

The 'Law of the excluded middle,' advancing a step further, points out that of two such propositions one must be true, and the other false. By the previous law they cannot both be true. And if the affirmative be false, it is because the attribute in the predicate is absent from the subject, precisely what the negative declares. If the negative is false, it is because the attribute in the predicate is present in the subject, precisely what the affirmative declares. We cannot therefore discard both judgments in favour of some third different from either; but are

certain of the truth, if we make the right choice between them. Is it false that the subject is **y**? Then is it true that it is not **y**. Is it false that the subject is not **y**? Then is it true that it is **y**. They cannot both be false.

By the introduction of a third term, whose contents can be measured, in separate propositions, against those of each of the other two, the range of inference may be extended to the unfolding of further relations, to the correct eliciting of which the rules of the syllogism are all subservient. But however far the deduction may run into ulterior varieties of form, the criteria of their correctness are all drawn from analysis of the act of judgment itself, and engage us still in a comparison of our own concepts, and a shifting of their contents from the implicit to the explicit side of an equation. The process therefore appeals to a purely internal experience, and is an interpretation, and not an enlargement, of what we objectively think and know. It is not therefore without reason that Kant denies to 'logical truth,' i.e. agreement of judgments among themselves, and their conformity with the predicative law, the character of Knowledge. For any insight into Nature we must go beyond the development of our own concepts.

This end is not attained unless we form judgments of the second class, viz. *Synthetic* or *Ampliative*, called so because the predicate puts on to the subject an attribute not within its previous contents, and so enlarges its comprehension. When I say, 'Water is composed of oxygen and hydrogen,' 'matter is heavy,' 'a circle's intersecting chords make equal rectangles under their segments,' I specify of each of these objects a property not necessarily involved in the understanding of its name; and the judgment is synthetic. Here, the object judged being no longer in my own mind, self-consciousness is of no avail as a test of the affirmation; for the verdict of experience, I must go out of myself and take counsel of direct perception and experiment with the water, the matter, the

circle and its required construction. However wide the sweep and abstract the expression of synthetic propositions may be, they never escape their dependence on perception for their verification. The proposition that 'all projectiles move in some conic section' is no doubt a necessary deduction from the law of gravitation; but this law itself remains a mere hypothesis till it is carried into the midst of physical facts, and found to give an exact description of their form and relations. And no less do synthetic judgments of mental phenomena appeal for their confirmation to experience on its internal side. That 'our conception of an object's distance affects our estimate of its size,' that 'with a fundamental note we hear its harmonics,' that 'we remember visible things better than notions and feelings,' are simply a record of the inward witness of our self-consciousness. This appeal is universally taken as ultimate; so that we assume that in perception and self-consciousness (Kant's 'outer and inner Sense') *we know*.

For all practical purposes this ultimate reference to perceptive experience for a verdict on synthetic assertions, answers perfectly. If a question arises between you and me whether something familiar to us both has or has not a certain property not mentioned in its definition, our only resource is to go and look for it; *there* is the object in the external space; *here* are we, with similar susceptibilities to be affected by it; bring the two into presence of each other; then, if we both of us gain the impression which corresponds with the attribute affirmed, the doubt is resolved, and a new feature is, for each of us, added to the original conception. Its reality is admitted in virtue of our being similarly affected, and feeling sure that, if brought to the test, all other men would be so too. In strictness, however, this amounts to no more than inevitable *universality* of belief, or concurrence of thinking; and are we to say that this is all that we mean by 'knowledge'? Do I not suppose it to give me not only agreement with you,

but also insight into the nature of the external object? Yet how can this be, if it be really where I am not, and a chasm lies between it and my faculty? Unless either my cognitive power can achieve the paradoxical feat of *actio in distans*, or the object can dispatch on commission something of *itself*, while still retaining itself entire where it is, it would seem to be hopelessly inaccessible to my apprehension. Nor does the difficulty disappear when we observe, step by step, what actually happens in the process of perception. The object is not supposed to speak to me except by certain changes in my sensibility: in these it is that my relation to it begins; from one of these that I gain the new feature now predicated of it; and all these are in my own consciousness; and in being aware of them I know, instead of anything external, only some phenomena of myself. The experience therefore which determines the truth of a synthetic proposition resolves itself, after all, into variations of sense-affection, and though it professes to send me abroad, never really lets me loose from home. Such process, in distinction from intentional self-reflection, and to mark its reference to an object other than self, Kant may call an experience of the '*outer* Sense'; but what it contributes under the name of a new attribute, is still a variety of feeling, which is 'outer' only to the present contents of our concept, and contrasted with them only as a percept to an ideal image; and the elements of the story, old and new alike, are unsevered from the seat of inward self-knowledge. It remains therefore questionable whether, in my supposed excursions of discovery in the world of foreign things, I am not all the while at rest, playing with the phantasms of my own dream.

§ 3. *Kant's account of Mathematical Judgments*

Before attempting to relieve our problem of this suspense, I may point out a distinction observable in a special class of synthetic propositions. The experience which furnishes by far the greater number of them warrants no

universal and necessary judgment, but only a rule of actual fact, always open to correction by ulterior experience. In this respect analytical propositions, with their inferences, have an advantage; for, when a system of concepts has once been accurately defined, the contents of each are relatively comparable, and in what they respectively include and exclude there can be nothing variable or contingent; so that unblemished logical deduction carries necessity into its conclusions, and bars exceptions. From the one procedure we contingently learn the unknown; from the other, we necessarily prove the known. Can we nowhere then combine these separated advantages? We do so, Kant assures us, *in the mathematics*; which afford the one undisputed example of absolute demonstration; and at the same time open to us an ever-widening field of quantitative relations to the apprehension of which it would be absurd to refuse the name 'knowledge.' Whence have they this peculiarity? To find its source, we must scrutinise again the 'experience' we have already consulted; but must turn to a factor in it which we have hitherto neglected, though inevitably assumed. In referring either to the contents of our own concepts, or to any new affection of sense added on from the object, we have regarded our consciousness as a receptacle and depository of feelings delivered on to it, and their vestiges; and this store of materials given us is the indispensable passive condition of all that we perceive and think. It is what Kant calls the '*manifold of sense*,' the variegated concourse and transit of sensations, differencing a being that feels as it changes from one that changes without feeling. This, however, is no more than may be said of every animal. In man it completes itself into 'Experience,' because in him it falls upon an active faculty that meets and moulds it, and turns the shapeless mass into the organic order of his intelligence. Such form to the formless he must assuredly bring; what is to be done with the matter given, how his faculty is to re-act upon it, cannot settle itself by

any passivity, but demands the presence of a determining function; since that which puts feelings into this order or that cannot itself be one of the ordered 'manifold.' There cannot fail therefore to be *a priori* ways of disposing of the sense-data; and those ways, inherent as they are in the very constitution of our nature, supply the second factor, not only of all actual, but of all possible human experience. To these all our percepts and representations must conform; and the whole of the 'manifold of sense' must be taken up by their arrangement. Its contents, as they arrive, are not allowed to drop unnoticed upon our receptivity; if they touch the 'inner sense,' they are met by the question '*When* did you come hither?' if the 'outer sense,' by the question '*Where* do you belong to?'—in other words, are supplied respectively with an order of *Time* in which they must regiment themselves, and of *Space* in which to group themselves. These then are indigenous principles of arrangement brought by the mind's own faculty to the passive data of sense, and giving law to its mode of handling them; lifting them into 'experience,' in one case, of the successions of self-consciousness, in the other, of the co-existences of Perception; in both, giving them *Objectivity*, i.e. a separateness from the *Now* and *Here* whence the apprehending *Subject* himself contemplates them. Time is the possibility of change or succession[1]: space, of co-existence[2]: and the matter claiming disposal in those two orders is the collective mass of sensitive changes.

These forms, while conferring objectivity on the 'manifold of sense,' acquire it themselves in the very act. In appropriating my own feelings to their order in my consciousness, I cannot but read in their series a sample of an unlimited continuum of Time. In the image into which I combine what is delivered to my 'outer sense,' I cannot but perceive, even after throwing out of account all the

[1] Kritik der reinen Vernunft. Supp. x. Rosenkranz, Band ii.
[2] Ib. Kritik der 4ten Paralog. der transc. Psych. p. 299.

sensory elements which I can abstract (colour, smell, hardness, &c.), a residuary magnitude and shape, embraced, with myself, in a circumambient infinitude of Space. And since, among the objects in this field, no less than in the inward story of my own consciousness, changes never cease, Time, the condition of change, is common to both, immediate to the 'inner sense,' mediate to the outer. These two constitutive forms, latent but prior conditions of all experience, first declare themselves in their concrete application; so long as they were empty, we knew them not; but, once introduced to their contents, we never lose the idea of the containing spheres, though all which they hold be blotted out of thought; just as the expanse between the sea and sky, revealed by a moment's lightning, broods over us still when all is dark. Remaining thus, these quantities are *pure intuitions* (reine Anschauungen); each a single object, not less than any particular thing which it might contain; yet differing therefrom by owing its distinctness to no boundary and its essence to no origin. They are *pure*, because cleared of the material of sensation required to constitute a 'phenomenon': they are '*a priori*,' because not taken from objects, but conditions involved in their apprehension, our own contribution to the phenomenon: they are *intuitions*, because immediate in perception and not gathered by thought.

Presented thus to objective contemplation, Time and Space exhibit certain self-evident predicates. Both are infinite, and infinitely divisible: neither is built up of its parts, but each is one whole, out of which particular times and spaces are cut by limitation. Time has one dimension, Space has three: two times cannot be together: the successions in time, and the limitations set up in space, taken in quantity, furnish the relations of number and of geometry, which carry in them all the *Necessity* of the intuitions themselves. The propositions in which these predicates are affirmed are *synthetic*; for the object spoken of is not a concept which is analysed, but a singular which opens into

new relations; and as it does so without resort to any further experience than is at command of the intuitions in their possible combinations of dimension, the propositions are *synthetic a priori*.

Whoever rejects this interpretation has only the alternative of treating Time and Space as universal properties drawn by abstraction from things and events, like hardness, weight, and swiftness. But this resource is excluded by fatal objections. Abstraction cannot work except upon a complex datum already there; and no thing or event can be already there without Time and Space to hold it. We have to think of it as in time and space, and not of time and space as in it. And after we have picked out and separately named some property found in a multitude of particular things, it can always be predicated in its whole significance (i. e. with all *its* predicates) of each member of the class to which these particulars belong; as, for instance, warm blood of every mammal: but Space and Time, with their infinitudes, can be predicated of no finite object of our experience. They are pre-supposed, not evolved, by such experience.

Thus then we are introduced, without quitting the *synthetic* bounds, to a new type of judgments, viz. the mathematical, distinguished by the *a priori* character of their object and their synthesis, and consequently the universality and the necessity of their method of advance.

In the light of this exposition consider and compare what we do in forming each of the two types of synthetical judgment. In the *a posteriori* case we apply the 'forms' Space and Time to the 'matter' of sensation present with us as a foreign gift (Gegebenes), and furnishing all that fills the empty forms. In the *a priori* case, we apply the same forms to themselves contemplated as potential or *quasi*-objects, though there is no sensory matter there; so that the act consists of the subjective function somehow escaping from its subjectivity and getting a look at itself, and discovering its possibility through its exercise in

actuality: Space, the infinite possibility of perception; Time, the infinite possibility of self-consciousness.

It is only however in the *a posteriori* case that any object exists: for it is precisely the meeting of the native and the foreign conditions, the fitting of the subjective forms upon the given states of sensibility, that constitutes the objective, by putting a unity upon the 'manifold,' and effecting the 'apprehensive synthesis.' Without this dual combination, intelligence is impossible; the 'matter' alone is blind; the 'form' alone is empty; not till they unite do the changes of the manifold become *phenomena*, i.e. consciously appropriated to ourselves in time, and referred to their position in space.

In the *a priori* intuitions of time and space in their immensity these constituents of objectivity are not present; the sensory element or 'manifold' being given only in the *finite objects* which we see distributed in the infinite time and space; beyond which the outlying continuum, for want of this condition, is no realised object, but only the *possibility of objects* without end, the prerequisite of *what is not*. It is the vacancy waiting for the knowable without anything to be known; and merely means that we are ready to take in hand whatever 'manifold of sense' may be contributed over and above what we have. The predicates which are inseparably attached to these pure intuitions are but the law of our percipient thought, and express beforehand the rules to which all things and phenomena that may enter their field *must* conform; and this is what is meant by the universality and necessity of the mathematics. It is a *subjective* universality and necessity, determining how the human mind will always have to think, but belonging exclusively to the judgments of possibility, and meanwhile of empty ideality.

It will now be intelligible how Kant's doctrine runs up into the sharpest antithesis to the empirical theory of cognition; and, instead of admitting that it is wholly the tuition of Nature that makes the Mind, insists, *totidem*

verbis, that the 'Mind makes Nature,' contemplating there nothing but what it constructs and projects thither out of its own constitution. It is indeed the pupil of 'experience'; but both the factors of that experience are fetched from its domestic stores; and though each encounters the other, it encounters nothing else, and is absolutely incapacitated for reporting anything beyond: the material factor, because offering nothing but passive feeling; the formal, because destitute of any object, except what it sets itself to fabricate out of a select lot of passive feelings. While the essence of the Self centres in the active factor, and the contents of the Not-self are found in the passive, neither earns its name but by synthesis with the other, or enters the relation Subject—Object; and in establishing that relation, the Self claims the passive elements as its own, and the Not-self the unknown causality of what is given us to feel. *External* therefore to the total or constituted Self no object can be; other than self we cannot call it, except so far as a product is other than one of its own factors; it cannot be where the Subject is not; for it is a function of the same nature; and in what we may predicate about it we are passing judgment on nothing but our own ideas. In conformity with this view, J. S. Mill decides that we have cognisance only of 'feelings and states of consciousness[1].'

§ 4. *What makes Synthetic Judgments true?*

Supposing such to be the constitution of our synthetic judgments, let us next consider wherein consists the difference between their being 'true' and their being 'false.' How they are known *to be* synthetic has been explained; and it has been said that, to test the correctness of the synthesis, we must *go up to the object*, and see whether the predicated property is there. But now it appears that our 'object' is a homespun article, woven from the material of our own sensibility by the loom of our own faculty; and

[1] System of Logic, Book I. ch. iii. § 15.

what can be meant by 'going up' to that which is thus a mere phenomenon of ourselves, to search for an alleged property? It means that we must repeat the experience from which our present concept was gathered, and take notice of the residue that we neglected and left behind; i.e. from the concept we must recur to the fuller percept, and hunt through its overlapping margin for the additional attribute now claimed. What then have we found that percept to be? It is that portion of the 'manifold of sense' to which we have applied the forms of Time and Space that carve out the object. The question therefore is, have we fitted these on to the right piece of the 'manifold,' or will they take in something more, and in particular, the additional predicate affirmed? To win an answer to this question is to consult and interrogate a purely inward process, viz. the play of an *a priori* facultative activity with the matter of our sensitive passivity; and the questionable property will be pronounced 'real' or 'unreal' according as the experiment shows a fit or a misfit. It is an experiment conducted altogether by ourselves upon ourselves; and the 'reality' which it may disclose means no more than a concordant relation between two orders of our own ideas.

It may come to mean more, however, if the experiment, instead of being individualised in myself, is extended to the consciousness of others, and they also be asked whether, among the differences between their corresponding concept and percept, they find the supplementary quality. If they do, the 'reality' for me is no less 'reality' for them, and gains whatever corroboration can be conferred by concurrent voices of assent. After passing this enlarged ordeal of comparison, 'reality' becomes equivalent to 'universality,' and embraces whatever is affirmed by the general suffrage of mankind. But still, in the many as in the one, the test is sought simply within the limits of the human personality, and found in the agreement, whether individual or universal, of concept and percept.

It must be admitted that this is not what we usually mean

by 'reality.' When we speak of the solar system, and of the heaven that contains it, as real, or of the battle of Austerlitz as a real event, we make no statement about men's belief, but intend to affirm that, whether men believe it or not, a certain group of globes exists around them, and a certain composite event has passed in history, both the presence of the one and the genesis of the other being in a field independent of the inward states of any conscious nature. If the test of truth is to be universality in human consciousness, how will it fare with the 'ideality of Space'? Is there any conviction more clearly 'universal' than its 'reality,' not as an idea within us, but as a containing infinity around us? or any proposal harder of acceptance than to turn back the whole external sphere into the mind, as an illusory device for classifying sensations?

In working out his doctrine of Perception, Kant was content with showing how, out of the resources of its own constitution, the mind could provide itself with the objects of its cognition, so that it was a mistake to look further for the seat of their existence. His expositors advance upon a bolder line of argument, and insist, on *a priori* grounds, that even if our objects *were* in an external space, knowledge of them would be impossible. For in that case there would be a contradiction between 'the form of thought' as in 'the individual consciousness,' and 'the matter of thought,' as not in it but beyond it; and in 'the very assumption that the objects of knowledge *are* objects the impossibility of knowledge is involved.' How is it possible for 'the mind to throw a bridge between itself and objective reality,'—'to go beyond itself to apprehend that of which, according to the very idea of it, we are not conscious,' and span 'the gulf between itself and that which is not itself,'—'to be one of the terms, and at the same time the unity which includes them both,'—to 'leap off its own shadow[1]'? 'To know,' it is said, 'is for the intelligence to find itself in its object[2].'

[1] Caird's Critical Account of the Philosophy of Kant, 1877, pp. 6–8.
[2] Caird's Philosophy of Kant, p. 614.

To this supposed impossibility of the mind 'getting beyond itself' I shall recur, after noticing the further disqualifications for knowledge which Kant finds in the constitution of the speculative Reason. I will only point out in passing its curious contrast with Comte's rule that the real impossibility lies in the mind's *getting at itself*, so that the Kantian condition of knowledge is the Comtian doom of ignorance [1].

§ 5. *Extension of Critical Principles to Super-sensible Objects.*

The disabilities for knowing things really external to ourselves have thus far been charged exclusively upon our sensory receptivity and perceptive faculty; and their limits, we may naturally suppose, apply only to the lessons of physical experience. When we rise above this ground-level and look forth on the wider horizon swept by the *Intellectual* vision, may we not expect to transcend these limits, and through the purer light and air gain access to super-sensible objects? Kant extinguishes any such hope by the restriction under which he places the intellectual function. It fetches in no fresh material; it simply unifies in certain determinate ways the indeterminate multitude of sense-images and experiences; primarily appropriating them to the centre of self-consciousness, as the fundamental unit; next, calling in the 'productive imagination,' to mediate between the pictured singulars of remembered perception and the universals of thought, by help of its indefinite sketches (or schemata) of grouped similars; and at last tying them up into concepts or severing them into abstracts. The different manipulating activities by which the understanding works its materials into varieties of Thinking or judgment, constitute its *Categories*, or subjective forms for disposing of its store under the heads of Quantity, Quality, Relation, and Modality. But none of these operations

[1] 'Par une nécessité invincible, l'esprit humain peut observer tous les phénomènes, excepté les siens propres.' Philosophie positive, 1830–1847, i. p. 35.

introduce us to any new field; they do but deal with the original data of sensation, from the elaboration of which all their contents and products are furnished.

But our illusions do not stop here. As in perception we are busy only with our own modes of feeling, yet suppose ourselves engaged upon some 'thing in itself,'—a mere noumenon which we put behind them; and as in using the understanding we do but wield our own concepts, marshalling them in their orders of rank and possibilities of combination, yet fancy ourselves face to face with the matter and necessary laws of a nature independent of our thought; so, in the ulterior attempt of the Pure Reason to break the empirical bounds, and apply the categories to unify these noumenal objects and reach absolute ultimates of cognition, it does but project upon vacancy the mirage of its own Ideas, and believe that in the pursuit it is apprehending the essence of the Soul, the World, and God.

The mode in which this self-deception arises is dependent on the very nature of the reasoning-process. The premisses state the conditions under which the conclusion is true. If either of these conditions should be problematical, it will need to be made good by affirming its conditions; which again may have to be secured by a further prosyllogism; and so the conditioned proposition may be kept in suspense during a regress in infinitum. The Reason does not realise its end till it grasps the whole of the conditions, i.e. till it has reached *the unconditioned*. Here then is the *goal of Reason*, the Idea that for ever possesses it and leads it on, the Law and inward demand of its nature. Treat this as a practical rule, never to rest in any conditioned phenomenon which in experience can be carried back to its condition; and it has its legitimate place as a working guide. But presume upon it as a theoretical guarantee that the Reason can fulfil its ideal and apprehend the unconditioned Cause of causes, Substance of substances, Unit of all infinitudes; and you will lose yourself in a thicket of paralogisms and antinomies. The idea of 'the Unconditioned' is the necessary correlative

of its companion term 'the Conditioned'; but to identify this indispensableness of thought with necessity of existence is not less absurd than to make two persons of a man and his shadow, or two objects of 'something' and 'nothing.' Such an error would double the census of the world's contents, by entering the negative member of every contradictory antithesis on the register of positive things.

It is needless to follow Kant as he tracks this illusion through the constructive metaphysics of his time, and shows how it invalidates in turn the so-called Rational Psychology (the doctrine of the Soul as a simple indivisible, imperishable entity), the scheme of Cosmology (the theory of the universe as a total system of phenomena under conditions of Time, Space, Causality), and that of Theology (the doctrine of God, as the Ens realissimum—the absolute ground of all possible existence and thought, in themselves and their relations). So little of the schemes then favoured by the schools survives for us, that his criticism has chiefly an historical interest; and so far as it has still a living application, it will be most fitly noticed as the particular topics present themselves which are successively affected by it. For our present exposition of the doctrine of Nescience it is sufficient to point out its inseparable connection with the author's doctrine of Perception. The changes of feeling, or 'manifold of sense,' supply the whole matter or contents of what we can know, though not themselves constituting knowledge, till taken up and objectified by our perceptive 'forms' of Space and Time. Neither these forms, nor 'concepts' of the understanding ranged in its 'categories,' nor again the 'ideas' which meet the Reason at the ultimate ratio of unification, bring with them anything further to be known, except themselves. They are absolutely dependent on the original sensory elements of experience, which alone they are qualified to handle, and on which all their activity is expended. If therefore, after extracting a store of concepts and ideas by precipitating the mere sensitive affection, we make *objects*

of those concepts and ideas, by applying to them the form of Space and the categories of 'Reality,' 'Unity,' 'Necessity,' we do but snatch our own phenomena from their place, and set them up as idols of self-deception. The general result of this critical Analytic is, that the human being is a casket of faculties and susceptibilities, which coherently treat and interpret their own phenomena, without access to anything beyond.

CHAPTER II.

Appreciation of Kant's Doctrine.

By virtue of its own method, Scepticism is shown to be an unreality. It can only destroy the validity of thought by assuming that the laws of thought are valid. It must use Reason to disprove the truth of Reason. —Jackson, *Doctrine of Retribution*, p. 150.

In testing the conclusions of this 'Critical Philosophy,' it is necessary to distinguish between its *psychological* and its *logical* pretensions. To decide upon the former, we must ask whether, if accepted, it *accounts for* our belief in an external world. To determine the latter, we must ask whether it enables us to *verify or to invalidate* that belief.

§ 1. *As a Psychology of Belief.*

Mr. J. S. Mill has appropriated to his empirical doctrine the name of '*The* psychological theory of the belief in an external world'; as if everyone who gives a different reading to the internal genesis of that belief forfeited his place as a psychologist. There is no justification for such a monopoly of the term. Kant's analysis of the fact of Perception is no less exclusively derived than Mill's from careful scrutiny of the contents of the self-conscious process. The difference between them is simply that the one discovers there only sensitive changes administered to the mind's receptivity, while the other finds also determining factors brought by the mind's own activity. The two heads of arrangement, Time and Space, under which all phenomena dispose themselves, the one regards as gradually learned, like any observed property of things, by analysis of experience, the other, as conditions presupposed in experience, and belonging to the very make of the faculty that wins it. Whether the former and purely empirical

doctrine can render an adequate account of our belief in an external world will be considered hereafter in treating of Mill's application of it to this purpose. Meanwhile, that Kant's 'Æsthetik,' in assigning an *a priori* character to time and space, obtains a complete competency to this end, and leaves no element of the belief at a loss for its meaning, appears indisputable. It escapes the impossibility of metamorphosing passive feelings into active cognition, by superinducing the perceptive 'form' on the sensational 'material'; and provides for the *objectivity* which certainly is not involved in the mere changes of the sensitive nature. The distinction between truth that *must* be and truth that simply *is*, the demonstrative certainty of the mathematical sciences which deal with number (time) and with dimension and figure (space), the infinity towards which the possibilities of quantity run out, all become intelligible in the light of this doctrine, while else still fruitful in unsolved problems.

But notwithstanding the irresistible cogency and adequacy of Kant's position as to the *a priori* character of Time and Space, his account of the relation between these two forms in their genesis and first application is not free from obscurity and inexactness. They are the distinctive laws, respectively, of the 'Inner' and the 'Outer' sense, phrases which, with Locke's own sanction[1], had come into use as equivalent to his 'Reflection' and 'Sensation' or Self-consciousness. But there is this difference between them; that we might have had the inner sense alone, and in becoming aware of its feelings, we should cognise them one after another and apprehend them *in Time*, without any surmise of Space; while on the other hand, it would be impossible to have the outer sense alone, with its reference of the phenomenon to *Space*; for this, *ex vi termini*, is an idea of which we are self-conscious; as an affection of our inner sense, it must stand there in the Time series; and so the Space idea which it carries cannot be realised without dipping into the element of the antithetic sense. Hence

[1] Essay on the Human Understanding, Book II. ch. i. §§ 3, 4.

the rule that Time is predicable of both inner and outer phenomena, Space of the outer alone[1].

The primacy thus assigned to the 'inner sense,' while containing within it the key to the true solution, is so presented as to involve serious difficulties. The parallelism of function between the two 'forms' of Sense, and the distinction between its two constituents, of 'matter' and 'form,' are both of them disturbed by this account. By the 'material' is always meant the passive feelings empirically given; by the 'form' the spontaneity with which we meet them and unify them under this head or that; Time for one set, Space for another; and neither of these can be empirical material, not being sensation but a disposer of sensation: and still less can one form, or the Ego in the exercise of one form, apprehend the other. Yet we are assured that the Space form of the outer sense cannot perform its function without becoming the matter of the inner, and must itself enter a series of one dimension before it can claim its three. A further want of clearness is observable in Kant's use of the word 'Sense' in its demarcation from Understanding. The essence of the former he places in passive 'receptivity,' of the latter in active 'spontaneity'[2]; and this is also the distinction which he draws between the empirically received 'manifold' of feelings and the *a priori* 'forms' of time and space which we ourselves bring upon it to unify its contents. Yet *this* spontaneity, though first constituting intelligence and supplying it with objects, he does not assign to the Understanding, but retains in the retinue of Sense. It was quite admissible for him to limit the word Understanding to the kinds of cognition that commence with the manipulation

[1] Kr. d. rein. Vern. transcend. Elementarlehre, I. ii, Schlüsse C. Rosenkr. ii. p. 43.

[2] 'Wollen wir die *Receptivität* unseres Gemüths, Vorstellungen zu empfangen, so ferne es auf irgend eine Weise afficirt wird, *Sinnlichkeit* nennen, so ist dagegen das Vermögen, Vorstellungen selbst hervorzubringen, oder die *Spontaneität* des Erkentnisses, der *Verstand*.' Transcend. Elementarlehre, II. i, Rosenkr. p. 56.

of concepts; but not to set up for this an exclusive claim to a spontaneity which no less belongs to the intuitions and processes of Perception.

If the 'Inner Sense' is to dispose its feelings in one order, the 'Outer Sense' to arrange its own in another, we must be differently affected in the two cases; else in the absence of any distinguishing mark, the ground of classification will be wanting, and the feelings may be captured by the wrong 'form' and appear in the inventory of a usurper. No such distinction exists; for the simple reason that the very same sensations which belong to the Outer Sense are those which we know by the Inner: the fragrance, for instance, the bloom, the shape, of a rose; and in the two cases we have to discriminate between, not dissimilar kinds of feeling that may be separately unified, but different intellectual dealings with the same feeling, viz. an appropriation of it as *in itself*, and a reference of it to a source *other than itself*. Self-consciousness takes it home: Perception carries it to its cause.

In performing this act, rightly regarded as occasioning the idea of Time, Self-consciousness cannot properly be called 'Sense' at all; simply because it *is* an act put forth, and not a feeling passively emerging. It is no item of change in the receptivity, but an attention directed upon such an item, allocating it upon its point of emergence, which it identifies with the attending self. If another change arise, it also is referred to the same point, without however meeting the former occupant except as an image of what has been: and so of a third and any following number. The receptive continuum on which these sparks of consciousness seem to glow and fade involves, under the intuition of the active intelligence, the idea of Time. Were the very same changes of state lighted up and quenched, one by one, without the presence of the attentive eye, each of itself would be a feeling, but, strung into no combination, would remain without chronology.

The self-activity which is attended by the intuition of

Space takes the form of *movement*; not that movement pure and simple as a continuous spontaneity would supply it with adequate occasion; for I must not only have the activity, but know it; and know it I shall not, until it is arrested or resisted. But the moment the impelled limb strikes on an impediment, I realise what I have been about; the stopped impulse, surprised by the challenge, *tries* to fulfil itself by additional tension, and the energy passes from spontaneous to voluntary, facing the alternative of *my causality* or causality *other than mine*. I might say, my '*force*' or force other than mine: but there is this difference; that 'force' means that which I have been unconsciously expending all along, and first discover when the flow of it is checked,—just as the normal heart-beat is latent till the pulsations slacken or run wild,—and is therefore a single continuity which might never be disputed: while 'causality' denotes that which decides between two conceived possibilities, and determines the actual to be *this* rather than *that*. Now that which in me decides between two possibilities is *Will*, the act of choice which settles an alternative; and when I encounter resistance and set upon *trying*, the problem thrust upon me is simply, 'Which is to be determiner?' and necessarily takes the form of Will against Will, mine against other. If, as I believe, this is the birth-point of the intuition of causality, that intuition is involved in the elementary exercise of perception: it is neither deducible from the 'forms' of time and space, nor answerable for them; but as a function of the self-consciousness which discriminates the Ego from the non-Ego, is co-ordinated with them.

It is an evident implication in the foregoing analysis that the Self is revealed to us in its *active* capacity; and similarly that the not-self bursts upon the stage as its energetic antagonist. But the encounter of opposite causalities involves the delivery of reciprocal effects; and the collision which checks my spontaneity announces itself also by tactual and visual feelings passively attending the

shock, while my own impact is followed by more or less commotion among the images of my camera conscia. The former of these, completing the causal idea of the not-self, are what *I get*, and so they introduce my *receptivity* into the same ego with my *activity*: the latter are what *I give*, and so they are thrown off into the non-ego; each of the antithetic terms becoming thus both agent and patient.

The precise relation of the Causal antithesis between the ego and the non-ego to the 'forms' of Time and Space, and of those 'forms' to one another, is by no means easy to determine. It is common to regard these two quantities as quite heterogeneous in their idea, notwithstanding their common predicates of infinity and divisibility, and the recognition in Time of a dimension which at least resembles one of the three belonging to Space. Kant treats this as no more than a resemblance. He says, 'Since this inward intuition has no form, we try to compensate this want by resort to analogies, and represent the time-succession by a line infinitely produced, in which the manifold items form a series which is of only one dimension; and from the properties of this line we infer the properties of time, except the single one, that the parts of the first co-exist, while those of the last are in every case successive[1].' Is it then psychologically true that 'this inward intuition has no form'? Of course it is, if by 'form' we are to understand only a periphery inclosing an area; but is it so, if we extend the word to an *imaged* quantity presentable only on spatial conditions? In other words, is the one dimension of Time something other than the first of the three dimensions of Space, and described by it only in the way of metaphor? Have we any *literal* idea of time which dispenses with this 'analogy'? It is admitted that of Time as empty we have no perception: it is reported to us by its felt contents; and, on the other hand, that of those contents as successive we could have no apprehension, but for the underlying continuum of Time provided for them *a priori*:

[1] Transcend. Elementarlehre, II. Schlüsse (b).

if there be such indissoluble interdependence between the unbroken continuum and the manifold train of items, how can it be said that only the successive links of the latter belong to time, and that the undivided line of the former is but a borrowed property of Space? Two forms that thus play into each other's hands in order to exist must stand in some nearer relation than is compatible with the entire distinctness assigned to the 'Inner' and the 'Outer Sense.'

I venture to raise a question whether they have not a common point for their origin. What is the initial point or standard to measure from in the *Time consciousness*? It is the *Now*, as distinguished from every *then*. And what is the initial point in the *Space consciousness*? It is the *Here*, as distinguished from every *there*. And what do we mean by the *Now*, and how do we fix its seat? It is the Subject's own existing state, the point through which his act is passing. And what again do we mean by the *Here*? It is where the subject himself is: it is at his own centre, the waking point of his activity. The self is always here, and is always now: it constitutes the common starting term of both relations. But how could this be, if the elements which contained the complementary terms were altogether heterogeneous? In remembering a feeling, I recall a *then* which once was *now*: in repeating the act on several occasions, I submit all the memories to the same condition, and connect them in my regards as beads upon a thread reaching to the intuent self. The continuity traced by the flowing of this *now* through its series of points seems to me so literally a line, that the story, so far as I can see, might be just as truly told in terms of longitudinal distance, as a looking forth on the perspective of *theres* each of which had in turn been here. The reason why we do not adopt this language is partly that in the Space-field lie innumerable *other theres* that never have been here, and that are as much *there* and *there* and *there* to each other as they are to us; and we need therefore a distinctive phraseology to mark out the limiting condition

of this particular externality; and partly that the identity of Self through all its changes forbids us to differentiate them from each other by the same terms which serve to contrast the total Self with the total not-self.

If then our self-discovery shapes itself at its birth into the *a priori* form of alternative Causality with reciprocal passivity, and if the self is coincident with the *here*, the other than self must be the *not-here*, but *there*: in other words, it comes to us as *external*; and the Perceptive act involves, along with the Causal intuition, the geometrical idea of *Space*. This interpretation of the conditions of experience somewhat modifies Kant's adjustment of their order and proportion, and assigns an earlier function to the idea of cause; but does not transfer any of his *a priori* data to the account of empirical acquisitions.

On one point more the language of the Æsthetik is apt to mislead. The feelings delivered on to our Receptivity are called, as we have seen, 'the *manifold* of Sense'; and are regarded as a plurality ready stored, and waiting to get into their right order, either of series, or of group, by the application of the respective forms of time and space: and the arrival of this event it is which first moulds the many into one. Is this a true description of the purely animal states of passive sensibility? He evidently assumes that where several organs, visual, tactual, olfactory, etc. are affected by the different properties of an object, a corresponding number of sensations will be assembled in the consciousness, and constitute a 'manifold.' And this seems at first to follow from the undoubted fact that, if one of the senses were thrown out of the phenomenon, the feeling would be different. But so would it be with our own general *life-feeling* if any one of its tributary organs,—a valve, a gland, an artery, a membrane, were to drop its function or become abnormal; yet so long as it goes on as usual, its special sensibility is undistinguished; and our momentary consciousness, formed though it is by the confluence of innumerable rills of sensibility, is simply one.

The compositeness of the raw material of our experience is a secret from us not only until it change, but until we wake up and *notice* the change, i.e. until we actively perceive as well as passively feel. We apprehend an object as single before we read off its properties as many, instead of picking up its properties one by one, and then adding them together to constitute an object out of their sum. This law of the *Unity of original consciousness* has important bearings on psychology; and requires us to invert Kant's account; to read the process of perception, not as a descent of synthesis upon multiplicity, but as a resolution of singleness into analysis.

With these modifications Kant's doctrine of Perception seems to me accurately to reflect the contents of our experience. But even in its original form its resources are sufficient to give an intelligible account of our belief in the existence of an external material world: and criticise as we may his steering through some of the more intricate channels of psychology, that problem suffers no shipwreck at his hands.

§ 2. *As an Instrument of verification.*

There remains the more momentous question as to the *Logical* value of his doctrine: in explaining our belief, does he enable us to *verify* or to *invalidate* it? What is the tenure by which we hold that belief? Does he tell us that it depends in us on the existence of a world outside us? No: its specified conditions are the 'manifold of Sense,' and the *a priori* 'forms' of Time and Space, both factors being functions of our own nature. Constituted as we are, we should necessarily believe in a real world independent of us, whether there were such a thing or not. We are formed as if it existed, and cannot escape its idea; but it comes to us as postulated, not as demonstrated; and we may rightly read the make and the contents of our own mind, without being obliged either to accept or to reject its

postulates: they may be taken as intuitive knowledge or as subjective illusions: either supposition is compatible with assent to the psychology of the critical philosophy. If Kant therefore, in reducing Time and Space, with whatever they carry, to 'idealities,' means no more than that we cannot logically remove either of these alternative possibilities, he occupies an unassailable position. Our judgment that through feelings in the mind we have knowledge of what is not in the mind *may* undoubtedly be true; yet *need not* be true, since its existence as a belief is in any case provided for by the very structure of our faculties. Kant however does not hold the balance thus even between the opposite hypotheses; nor does he institute any thoroughgoing choice between them. Though he constitutes all our objects for us out of our own feelings, and makes them therefore self-evolved products, he does not avow a complete Idealism, with no world but the world of thought: yet neither does he concede anything like equal rights to the Realism which he retains. His proof that our mental constitution is a constant factor in our interpretation of experience he takes as a disproof of any possible knowledge except of our own ideas, and thus sets aside as inadmissible the natural postulate of intuitive truth. He concludes, as Hegel remarks, 'It cannot be true, because *we* think it[1].' And yet of the outward objects which he withholds from our knowledge, he does not deny the existence: he leaves a 'Ding-an-sich' as the real correlate (wahres Correlatum)[2] of our perception, with the proviso that it shall keep its secret and tell us nothing of what it is: he defines a 'phenomenon' (Erscheinung) an 'idea' (Vorstellung) which has 'an unknown transcendental object'[3]: he speaks of Matter, not as an 'Unding,' but as a 'Ding-an-sich' or 'transcendental object' inaccessible to

[1] 'Nach Kant ist dasjenige was wir denken falsch, darum weil *wir* es denken.' Encyklopädie, i. § 60. Zusatz 1. Ros. S. 123.
[2] Transc. Æsth. 1, sub fin. Ros. p. 40.
[3] Transc. Analyt. Anal. der Erf. 2; Ros. 163.

knowledge[1]. And accordingly, without questioning its reality, he simply warns us against supposing the last ground reached by calling it 'spirit' instead of 'matter': the 'transcendental object,' he says, 'on which are grounded both outward phenomena and the inward intuition is in itself neither matter nor a thinking being, but a ground unknown to us of the phenomena which supply the empirical concept of both the one and the other[2].' If these expressions occurred only in the *Kritik der reinen Vernunft*, they might be treated by a cynical reader as mere nominal concessions of objects which, like the Epicurean gods, having been disabled and set aside, might be permitted to exist. But they are found in both earlier and later expositions of his doctrine, under conditions which leave no doubt of their sincerity. His repeated disclaimer of the Berkleyan idealism, already appearing in his inaugural disputation for his Professorship (1770), rests on the principle that 'our sense apprehensions as caused attest the presence of an object[3].' And in his Prolegomena to Metaphysics (1783) he says expressly, 'This so-called Idealism of mine does not touch the existence of things (and this is the doubt which properly constitutes Idealism as commonly understood); for it has never entered my head to doubt it: but merely the sensible presentation of things, culminating in Space and Time; and in regard to these, therefore to all phenomena in general, I have only shown, that they are not things (but mere kinds of presentation) and not predicates belonging to things in themselves[4].'

This retention of undoubting belief in 'things in themselves' after showing that a 'thing' is but a synthesis of feelings by a unifying 'form' of apprehending, and in a 'transcendental object' foreign to the mind, after resolving objectivity itself into a subjective manipulation of sensations,

[1] 3er Paralogism d. r. Vernunft. Ros. 293.
[2] 4er Paral. d. r. Vernunft. Ros. 303.
[3] De mundi sens. & intell. forma & princ. § 11; Ros. i. 315.
[4] § 13; Anmerkung. 3; Ros. iii. 51.

is a singular incongruity. What warrant can he have for his belief in their existence? Are they not, by definition, beyond the field of possible experience which absolutely shuts us in? Does he need them as indispensable causes of what we passively feel? Has he not forbidden us to apply the category of Causality, or any other, a single step outside the phenomena of sense? Has it not been the whole problem of the critical philosophy to empty out the transcendental world, and reclaim its supposed contents for the human mind as their inventor? If the 'forms' and 'categories' of that mind are good authority for 'never doubting' existences beyond it, why will they not serve as guarantee for the externality of Space and the continuity of Time irrespective of our senses? The acceptance or retention of such transcendental belief can be justified only as an act of confidence in an intuitive necessity of thought—a confidence which at the same time is denied to perfectly parallel if not identical beliefs on the ground that they are nothing but an intuitive necessity of ours.

The two subjective 'forms of sense' do not, it would seem, equally disqualify us for objective cognition; for from the external field we are said (as already explained) to be cut off by an *a priori* impossibility of knowing which does not apply to the internal field. If the knower is here, and the thing to be known is there, he can never, we are assured, carry his consciousness over the interval or throw a bridge across to what he would be at; and as long as his faculty wins no contact, it is as much baffled by a millemetre as by a mile. With the inner sense this hindrance does not exist: the 'consciousness' has not 'to go beyond itself,' but is present where its object is; and hence, in asking the question 'How the conscious subject can know anything else but himself and his own state of mind,'—'can know what is not brought within the range of his consciousness[1],'—Kant allows that self-knowledge at least is possible. He 'can understand how analytic pro-

[1] Caird's Kant, p. 193.

positions are possible: how the mind, when it has once possessed itself of certain conceptions can analyse them or break them up into their parts: but in so doing it is merely dealing with itself: how can it go on to add to its own conceptions of objects[1]?' The contrast here drawn depends then on the plausible plea, 'the subject can of course contemplate and analyse his own thought, for it is with him; but *objects* are, by supposition, separate from him, without access to his consciousness.' On nearer inspection however the ground for this distinction vanishes, because holding good for only one (the geometrical) of the two quantities within which distance exists. The concept or memory which I analyse is, as the object of my analysis, no less beyond my point as thinking subject, than the grass which I see: the one is separate from me in time, the other in space; if I can know what is absent from me *now*, why can I not know what is absent from me *here*? Objectivity is common to both, and so far from being the contradictory of knowledge, is the essence of its meaning. The theory of knowing gains no advantage by fetching all objects into the mind, that the intelligent and the intelligible may sit on the same chair; just as much remains unexplained as before. The fallacy lies in the arbitrary assumption that between subject and object, the knower and the known, there must be homogeneity; so that thought may know thought, but cannot know things: an assumption which finds an extreme expression in the dictum of Professor Caird, 'knowledge of things must mean, that the mind finds itself in them, or that in some way the *difference between them and the mind is dissolved*[2].' If I wanted to name the condition which most certainly excluded knowledge, I should be at a loss for better terms than this: the moment you *dissolve the difference* between the knower and the known, they coalesce like the foci of an ellipse with its eccentricity reduced to zero, and the relation between them which constitutes intelligence vanishes.

[1] Caird's Kant, p. 7. [2] Ibid. p. 553.

If we waive this objection and suppose a real 'contradiction' to exist 'between the form of thought and the matter of thought,' the question returns upon us, how are we helped out of it by a search into the limits of thought, terminating in this check-mate as its chief trophy? When addressing ourselves to this peculiar 'matter of thought,' by what magic can we silence the contradiction of 'the form'? Have we competency for a critical analysis which shall separate the 'valid' from the 'invalid' factors of experience? The Reason which conducts the criticism being affected by the same incapacity as the Reason which is the object of criticism, if the latter proves destitute of the marks of validity, so does the former; and the philosopher will be only amusing himself with the attempt to 'leap off his own shadow.' It is no doubt possible, and important, to analyse the process of knowledge; but only on the condition that it be not prejudged to be nescience, and that, when analysed, it be accepted on its own terms. We cannot spring out of our own nature, in order to 'criticise' it from a higher platform of intelligence. All that can be done is to correct its accidental aberrations, by bringing its processes into harmony with one another, whether in the same mind or in many minds.

Were we obliged to choose between the two *a priori* assumptions, that we can know *only* what is at our own centre, and that we can know *nothing* that is there, it is the latter which would merit our preference. And Comte's error in regard to it lay, not in its abstract enunciation, but in wielding it as a weapon fatal to psychology: not observing that self-conscious analysis is always directed upon states of mind familiar to us from prior experience, and contemplated by the Subject across an interval of time.

When Kant applies his analysis of our sensible experience to discredit all supposed access to 'transcendental objects,' he appears to me to prove too much. Such an

object, as not phenomenal, he describes as Noumenal, i.e. constructed purely by thought; definable negatively as 'not an object of perception,' positively as 'an object of non-sensuous perception,' and in that capacity judged, by his Æsthetik doctrine, to be an illusory *ens rationis* presenting itself to our minds as *an object*[1]. But if this reasoning is good for anything, it goes to remove such a Noumenon not only from existence but from thought. For how have we learned that *objectivity* is constituted for us? It is by applying a 'sense form' to passive *sense feeling*, and so obtaining an *Anschauung* in space or time; nor can there be an 'object,' without both these factors from the sensory province of our nature. On quitting then this province for the understanding, and leaving space and time behind, we drop the possibility of an 'object' at all, and, in the absence of both its 'manifold' matter and its subjective 'form,' are incapacitated for constructing any such thought. It is not enough to say that we *misapply* the forms of space and time where they do not fit; the very power of applying them at all depends on the presence of the sensuous material which, by hypothesis, has vacated in favour of the pure understanding. We ought therefore to have no ideas, false or true, of such existences as the soul or God. Nor indeed is it easy to understand the distinction between the 'reality' and the 'semblance' of an 'object,' when the sole condition of objectivity is presentation to consciousness under the forms of space and time, and the whole perceptible world is transposed from its external allocation into the Ego. If, indeed, it is the mind itself which in exercising its own laws, '*makes* the natural world' which it fancies itself to perceive, the distinction between the knower and the known, the percipient and the percept, is abolished; and whatever is then called knowledge is 'only a coherent system of semblances[2].'

[1] See Prof. John Watson's Kant and his English Critics, Glasgow, 1882, pp. 294, 295.

[2] Ibid. p. 356.

Of the two ways of treating our reference of a perception to an object in independent space and time, viz. as an intuitive apprehension of *what is*, and as an illusory attribute of *what is not*, Kant then adopts the latter; and considers its correctness established by proving the 'subjectivity' of the two forms of Quantity. They would however be equally 'subjective,' if, being also 'objective,' they were contained for us in an intuitive apprehension of what is: so that the discovery that they are native forms of our percipient constitution decides nothing as to their illusory or trustworthy nature. Whichever side of the alternative you take you have to *postulate* it, and can no more *prove* it than you can prove that life is not a dream. If Kant does not convince me, it is not because I can adduce any class of phenomena which may not fit in with his idealism; but partly because, instead of making it thorough-going, he has left some real existences standing outside of it; partly because he has failed, while vindicating the psychological adequacy of his theory, to disprove the equal resources of its alternative; and, above all, because I hold, with Trendelenburg[1], that the subjectivity of space and time,—the fundamental characteristic of the critical philosophy,—does not prejudice their claim to objectivity, and requires no surrender of the reliance which we inevitably place on the veracity of our own faculties. The contemptuous terms in which Kant himself anticipates, and Professor Caird criticises this 'absurd' opinion, —that 'space and time may be both empirically and transcendentally real,'—might well deter me from professing it; but they are supported by reasons convincing only to the adherent of Kantian principles pure and unmodified. 'I should like to know,' says Kant, 'what I should need to assert in order to avoid the idealising of space. I should need to say, not only that the idea of space completely corresponds with the relation which our sensibility

[1] Logische Untersuchungen, 2te Auflage I. vi. S. 156 seqq.; and Historische Beiträge zur Phil. III. vii. S. 215.

has to objects, which is what I *have* said, but that it is in all points like the objects themselves. But this is an assertion to which I can attach no meaning whatever, any more than I can attach meaning to the assertion, that the sensation of redness is *like* that quality of cinnabar which excites the sensation in me[1].' To make this parallel just, the 'idea of space' ought to be, like the 'sensation of redness,' a passive feeling of the 'manifold of sense'; whereas even with Kant, it is the active factor of spontaneity which shapes that feeling in the self-consciousness; and, otherwise interpreted, it is *not* '*sensation*' at all, but *thought*, the intelligent or cognitive act involved in all perception. The visual experience does not tell us that redness for us is *like* the exciting quality in the cinnabar: the 'idea of space' does tell us that the sun and moon which we perceive are outside of us, and of each other in real relations represented by ideal ones in us. Professor Caird asks, 'Is it possible that the object which we determine for ourselves *in* consciousness, exactly corresponds to an object which exists independent of our determination *out of consciousness*?' and answers that 'we can give meaning to the assertion that empiric reality may also be transcendental reality, only by reviving the old hypothesis of pre-established harmony.' The question appears to me somewhat loosely put and arbitrarily answered. To speak of the object as that 'which we determine for ourselves in consciousness,' i.e. as owing nothing except to our own constitution, is to assume more than Kant assumes; for he admits (as Professor Caird himself allows[2]) 'things in themselves' to be 'unknown causes of these ideas.' And to represent Trendelenburg's doctrine as requiring 'exact correspondence' between the object as thought and the object as existing, i.e. perfect resemblance, point by point, in defiance of the distinction of the sensuous from the intellectual element of the perception, and of the conscious

[1] Prolegomena, § 13; Note 2, ap. Caird, p. 261.
[2] Caird, p. 259.

subject from the unconscious object, is an obvious exaggeration. The 'objectivity' of space means no more than that it does not come and go with the presence and absence of sentient animals, as pain and pleasure do; but that it is the irremovable and ever ready condition of the very 'things in themselves' whose existence irrespective of all consciousness Kant himself allows. The 'subjectivity' of space means our *a priori* apprehension of this 'objectivity' on occasion of the first experience that wants it. That the apprehension should agree with the fact would drive us to an hypothesis of pre-established harmony, if the order of knowing and the order of being were assumed to be two eternal series without possible contact or interaction; but not if relations of causality either subsist between them as they pass, or are prefixed to both in the unity of their source. That our cognitive faculties should be constituted in accordance with *things as they are* is no more surprising than that the instinct of animals should adapt their actions to *things as they are to be*; and much less surprising than would be a constitution of them conformable to *things as they are not.*

Nothing then, I conceive, stands in the way of our trust in the *bona fides* of our intuitive witnesses to a world beyond the contents of our own consciousness. We are spared the heavy task of taking Time and Space, with all their infinitude, as lodgers within us, and may leave them free to spread out all possibilities of experience, while touching us at only a few points of contact. Having access to fellow beings and an external scene, we are within reach of other truth than the mere self-consistency of our own ideas; and our judgments may be tested by the agreement of their affirmed relation with the real one. This is but the return to what it has become customary, in the esoteric schools, to call 'the common consciousness': in ignorance of any other, and unable to find myself in the sublimer experiences of the closet philosopher, I cannot withdraw my natural trust from a guide that has never deceived

me. By all means let illusions be banished, provided the eviction be not effected, like that of an exorcised devil, by another stronger than itself. But the idealist's superior airs towards the natural postulates and the direct working of the honestly-trained understanding, are seldom unattended by intellectual error and moral wrong. Philosophy supplies no substitutes for the implements of thought with which every human mind is furnished: it can only make the use of them more dexterous, and to speak of a 'philosophical consciousness' as if it transcended the habitual earth and 'caught a man up into the third heaven' to 'hear unspeakable words' is the usual prelude to paradox rather than to higher truth. The first condition of a sound mind is to plant a firm trust on all beliefs and feelings involved in the very exercise of the natural faculties, and the collapse of this condition opens the way to illimitable aberrations. In direct contradiction to this, the late Mr. James Hinton lays down the rule that 'All mysteries are removed if we once grant our feeling not true[1].' And the effect of such a rule is evident in his statement that 'the law of cause and effect under which we see nature, is a form of thought. It is nothing real, belonging to the essential action which constitutes the universe, but a relation, like that of time and space and motion, arising from our constitution: it arises as time does from the limit we impose on that which is unlimited. *Hence its absolute authority: hence its absolute nonenity*[2].' Kant tells us that we can know only what we feel; Hinton, that what we feel is false. Both invest the category of causality with 'absolute authority' for our thought, and divest it of all meaning for reality. Doubtless, 'all mysteries are thus removed'; for the very antithesis between the knowable and the unknowable vanishes in the universal blank.

[1] Philosophy and Religion: selected from the manuscripts of the late James Hinton. Edited by Caroline Haddon; 2nd ed. 1884, p. 22.
[2] Ibid. p. 17.

CHAPTER III.

Absolute and Empirical Idealism.

Et je vis l'ombre d'un esprit
Qui traçait l'ombre d'un système
Avec l'ombre de l'ombre même.
Scarron.

§ 1. *From Kant to Schopenhauer.*

Though the critical philosophy, by discrediting the prior metaphysics, laid the foundation of the modern doctrine of Nescience, a devoted disciple of Kant might, for two reasons, deem it unfair to place him in the front as answerable for it. He stopped short of unqualified 'transcendental Idealism,' reserving a remnant of Realism in the existence of the 'Ding-an-sich.' And, in the 'Practical Reason,' he recovered as postulates a great part of what, in the Speculative, he had surrendered as inferences. This latter plea, whether accepted or not as theoretically adequate, I thoroughly believe to be personally just; for the cynical imputations of time-serving hypocrisy heaped upon him by Schopenhauer are warranted by no evidence[1]. But the former plea cannot relieve him of philosophical responsibility, because it only pronounces him inconsequent; and in the history of systems an inexorable logic rids them of their halfness and hesitancies, and drives them straight to their inevitable goal. In the first edition of the *Kritik der reinen Vernunft*, he had presented his Idealism in so unflinching a form as to neutralise the effect of any minor reservations. 'We cannot be wrong in affirming that only

[1] Zeller says.—'Hat er doch auch das Dasein Gottes, wie allgemein zugegeben wird, damals so wenig als früher und später, bezweifelt.' Geschichte der deutschen Philosophie seit Leibnitz, 1873, S. 437.

that which is in ourselves can be immediately perceived, and that nothing but my own existence can be the object of a mere perception.' 'What is external not being in me, I cannot come across it in my apperception, therefore can meet with it in no perception[1].' Again, 'It is clearly shown,' he says, 'that if the thinking subject be removed, the whole material universe must lapse, since it is nothing but a subjective phenomenon of Sense in us, and one of its varieties of Idea[2].' Even were it possible, after thus identifying the subjective phenomena with the All, to save a remnant of Realism under the name of 'things in themselves,' they would not relieve the sentence of nescience, for they are as inaccessible to knowledge as if they had no existence. It is no wonder therefore that so gratuitous a survival dropped off at the next stage of the critical philosophy, and left the egoistic Idealism of Fichte in possession of the field. Not that these 'things in themselves' were permitted to die away in silent peace; for a trenchant attack upon them in 1792 by an author assuming the name *Ænesidemus* (and soon known to be Professor Gottlob Ernst Schulze of Helmstadt), in a work reviewed by the young Fichte at the outset of his career, had already given a more consistent direction to philosophical thought[3]. The modern New-Academician, in correspondence with his friend Hermias, has no difficulty in showing that if *Causality*, in common with all the other categories, can be applied only to phenomena, it is impossible to call Ding-an-sich the unknown *Cause* of our perceptions, without *eo ipso* denying its *an-sich*; and that, as '*Reality*' also is one of the categories, it is but an empirical product, and every transcendental object must be unreal. No Kantian there-

[1] 4ter Paralogism der Idealität; Rosenkranz, ii. pp. 294, 295.

[2] Folge des Paralogism; Rosenkranz, ii. p. 306.

[3] Schulze's book was directed against Reinhold's version of the critical philosophy, as the second title announces: 'Ueber die Fundamente der von dem Herrn Prof. Reinhold gelieferten Elementar-Philosophie; nebst einer Vertheidigung des Skepticismus gegen die Anmassungen der Vernunftkritik.' Fichte's review appeared in the Allgemeine Literatur-Zeitung of Jena in 1794.

fore has the least excuse for dreaming of any world beyond that of his own ideas.

Nevertheless, this is a kind of theory which, though admitting of a coherence and completeness which secures it from absolute confutation, never gains a durable hold on human convictions; and even in the philosophical schools, where subtleties are apt to recommend rather than to repel, it has as precarious a life as a treaty of peace and amity that is to last 'for ever.' The objective beliefs of mankind have in them a provoking self-conceit, and are averse to enter the service and wear the livery of any subjective 'forms' that lord it over them. The idealistic interpretation of the heavens and the earth, of the human crowd in the city streets, of sleeping and waking, of ploughing and building, of literature and science and law, of the ages of history, of the usages of religion, is not so easily worked out as to find a settled home in any but the most exceptional consciousness. To take all objects into the subject is to leave the Self in an intolerable solitude, while overburdening it with unmanageable contents; and it is no wonder that, under pressure for relief, the imprisoned captives fling off the nightmare and rush out of doors again, in spite of philosophic bars and bolts. So early did the reaction set in, that the spell of Fichte's idealism was broken by his own most brilliant disciple. Schelling, whose first writings betray no consciousness of deviation, was soon led, by his interest in the natural sciences, to feel that in the problem of Knowledge there were two sides, of which Fichte had explained to him only one. To know is to establish accordance between object and subject, and the conditions of this accord must be determined by studying the relation from each end, asking first how Nature can come into consciousness; and then, how Intelligence can get into communion with Nature. The second of these questions, belonging to transcendental philosophy, had been answered in Fichte's *Wissenschaftslehre*; the first, belonging to the philosophy of Nature, still waited for an adequate reply.

This missing half Schelling claims to have supplied in his *System der Transcendentalen Idealismus* (1800), where for the first time he rescues objective speculation from its subordination to the subjective, and places the two in parallelism[1]. So long as the transcendental philosophy declines the equal partnership, no relief will be given to the irrepressible demand which a Naturphilosophie alone can lay to rest[2]. This defection from the sovereignty of the ideal, dignified by the name of the *Identitäts-Philosophie*, and distinguished as objective Idealism from the prior subjective Idealism, was intolerable to Fichte, and denounced by him as a lapse into empirical Realism. It was no such thing; for Schelling did not propose to transfer the sceptre from the hand of the conscious self to that of unconscious nature, or look for any final settlement from the mere altercation of the rivals. He was for lifting the problem of knowledge to a higher point from which these and all other antitheses were born, —the Absolute Principium of all relations,—a Real above our reality, an Ideal above our ideas,—the common source and totality of both. Such transcendent existence however would be of no avail for the theory of knowledge, if speculatively assumed only (as with Spinoza), and prefixed to the contents of experience. But Schelling maintained that the Absolute was accessible to thought; not indeed to the differentiating thought of the reflective understanding, which deals with things in their distinctions, and therefore only with the many and the finite: but to the Reason, which has immediate intellectual intuition of the one Infinite and Eternal which unifies them all. This intuition, merging finite things and phenomena into the infinite self-identity, not only apprehends the Absolute, but even loses the apprehending subject himself in the Absolute; so that his Self is no longer his,—no longer individual, but universal. Missing this higher stage of thought, Fichte had looked only into the Ego of personal experience, of which

[1] Einleitung, § 1; Werke, iii. 339–342; and Vorrede, 330–332.
[2] Ibid. 343, note.

he regarded Knowledge as the self-affirmation[1]: whereas it is in truth the self-affirmation of God, the universal Ego. The one view, bringing everything to the standard of the empirical consciousness, results in a subjective Idealism; the other, apprehending the inner life of the whole, subject and object in one, embraces Nature on the same terms with Self, and constitutes a transcendental Idealism. Schelling's divergence from Fichte was evidently due to the study of Spinoza, who carried his speculation back behind the bifurcation of Being into the relation of subject and object; only, in order to link his new thought with his prior Kantian limitation to the materials of experience, he added to those materials a direct intellectual Intuition, capable of contemplating as in vision (schauen) the supreme Unity, of which Spinoza could say only that *it was*, and Kant only that it was *a blank unknown*. He seems to have forgotten that to the intuent being whatever he contemplates assumes the character of *his object*; and to have supposed

[1] Dr. Courtney, in his interesting introductory volume of 'Constructive Ethics,' 1886 (p. 214), speaks of Fichte as 'a thinker who has perhaps been too hastily accused of Subjective Idealism, and whose fame has been somewhat unfairly obscured by the reputation of the Hegelian system'; and insists, truly enough, that in the *Anweisung zum seligen Leben* 'the outlines of an absolute Idealism are traced.' But at the date (1806) of this 'complete and final reconstruction,' Schelling's alienation from the 'Subjective Idealism' of his early friend had long been declared, and indeed had produced both his *Naturphilosophie* in 1799 and his *Identitätsphilosophie* in 1802, and had now at last led to a formal personal breach. Fichte himself had not remained untouched by the increasing reaction against the overwrought pretensions of his Ego; and wished to show that he too, as well as Schelling, could find a way to rest in the Absolute. But to one long used to the voice of the *Wissenschaftslehre*, there was a *falsetto* in the change of tone. He had too deeply committed himself to the subjective order of thought-construction to admit the need of any other; and so the 'Absolute' which he professed to reach was, after all, a *dependent* result, inferred or evolved from the individual consciousness of which it is one of the implicit contents; and, however enveloped in the 'fervour of religious emotion,' was seen, on emerging from this 'ambrosial cloud' to be a mere phenomenon of the Ego, on which it looks down with the air of the prior and all-embracing Reality. This subjectivity of method establishes an essential distinction between Fichte's 'Absolute,' and that which is objectively apprehended by Schelling's 'intellectual intuition,' or eternally manifested in Hegel's 'dialectical process.'

that because in it, as apprehended, the antithesis of subjective and objective states is merged, the apprehender also is delivered from the conditions of his subjectivity, and is himself made absolute in the Absolute. Whatever illusions the theory may involve, the interest in which it is worked out obviously is, to rescue some reality other than empirical, and manumit Objectivity from its thraldom to the subject's consciousness. It is an insurrection of Nature against the autocracy of Humanity; and a protest of humanity against the agnosticism of Kant.

Absolute Knowledge is claimed by Hegel also as the attainable goal of intellectual development; but with a difference from Schelling both in the thing known and in the act of knowing. The former is not a Nature foreign to the subject and in negative relation to it, but a phase of the universal Reason of which the individual is a self-discriminating function; and the latter is not a flash of intuitive vision, directed upon a fixed object, but a process moving through traceable stages from simple consciousness through self-consciousness, reason, the moral law, religion, to absolute Thought, in which all antitheses return to unity. In each of these stages, the movement takes the form of a triple pulsation, of affirmation, denial, and reconciling emergence into something higher. The universe, being but the life of one thinking principle, repeats this law of movement in all its fields—in outward Nature, in human history, and in the individual experience. This is *Idealism*; because it never quits the realm of its ideas; all that I know is the process of universal Mind; and my knowing is the process of my own function in it. And it is *absolute*, because it unifies the objective and subjective sides of this relation, and makes one immanent law coextensive with the All.

On looking back at the development of Idealism from Kant to Hegel, it becomes obvious that only in its subjective form does it impugn the reality of knowledge; and that its advance into the absolute form derived its chief

impulse from the desire to escape that paradoxical consequence. The happy union thus proclaimed between subject and object was soon, however, rudely broken in the interest of Kant by Schopenhauer, the tormentor of all living professors, who treats the deviations of Schelling and Hegel from the Kantian criticism as bewildered aberrations, and breaks out against them thus: 'In our German philosophy, *Intellectual Intuition* and *Absolute Thinking* have now taken the place of clear conceptions and honest investigations. To impose upon the reader, to bewilder and mystify him, and by all sorts of contrivances throw dust in his eyes—that is our method now; that, and not truth, is the expositor's leading aim. In consequence of all this, philosophy, if we are still to call it so, could not but sink into ever lower depths, till at last the lowest stage of degradation was reached by Hegel, who, to stifle again the freedom of thought won by Kant, turned Philosophy, the daughter of Reason and future mother of Truth, into an instrument of obscurantism and Protestant Jesuitism, but in order to hide the disgrace and at the same time stupefy men's brains to the utmost, drew over her a veil of the emptiest verbiage and most senseless hodge-podge ever heard out of Bedlam[1].'

In thus spurning the attempts of the Absolutists to gain access to the Ding-an-sich, Schopenhauer did not abandon the enterprise for himself, and simply fall back upon the critical Idealism. He laughed at the pretensions of both the 'intellectual intuition' and the 'dialectical process' to pass behind phenomena into the apprehension of Reality. And he denied the right of Kant, after restricting possible knowledge to the *empirical*, to leave in existence at all any ulterior *real*, as the unknown cause of our sensitive experience; on the ground that the law of causality had no meaning or application beyond the field of phenomena; so that, accepting as he did from the critical philosophy its *a priori* apparatus of 'sense-forms' and 'categories of

[1] Die beiden Grundprobleme der Ethik, 1841, p. 84.

the understanding,' as fixing the boundary of intelligence, he had shut himself up within the interior resources of the subject, and regarded and characterised the world as human '*Vorstellung*.' So far, therefore, i.e. in his theory of cognition, he reverted to simple Idealism. But there is another side to his philosophy. His theory of *Being* has not the same source with his theory of *Knowing*; the latter comes from the 'consciousness of other things,' the former from the 'consciousness of Self.' The *Erkenntnissvermögen* is synonymous with *Bewusstseyn anderer Dinge*[1]; and in that field of 'other things' even phenomena and effects of ours, no less than those of our neighbours, may present themselves, so far as they are looked at and reckoned as facts occurring. But in his *self-consciousness* the human subject is let into a secret which would be for ever hidden from a mere contemplating spirit, or from himself, were he not *an Agent*. His body, besides being observable as an object among objects, is identified with his own individuality, and moved and wielded by himself; it is the Will itself passing into phenomenal expression; what it *does* may be perceived and submitted to rules of experience and intelligence; what it *is* reports itself only to immediate and incommunicable consciousness; it is the subject's very essence and reality[2]. By a courageous spring, the analogy is extended from the individual to the world; as his body turns out to be both Idea and Will, it may be taken as a sample of the whole, and the universe be established as phenomenally ideal, but in its reality (Ding-an-sich) as *Will*; the 'idea' of it being only in the human observer, while the 'Will,' without idea, and therefore blind and forceful, is its own eternal nature[3]. Thus Schopenhauer arrives, after all, at an *Absolute* ground of the phenomenal world, the common base of Subject and Object; whether, in naming it, he succeeds in showing

[1] Die beiden Grundprobleme der Ethik, 1841, pp. 10, 27.
[2] Die Welt als Wille und Vorstellung, i. § 18, pp. 118 seqq.
[3] Ibid. i. § 19, pp. 123 seqq.

it to us we shall better judge when treating hereafter the doctrine of Causality. At present I will only say that his account of it imposes upon us rather hard terms—he insists on our calling it '*Will*' and nothing else; yet it has no tincture of thought and does not know what it would be at,—which seems just to unsay its volitional nature. If we take refuge in what remains when all 'idea' is expelled from our activity, and suppose that '*Force*' is what he means, he accuses us of a ὕστερον πρότερον, and declares that Will is the common element of all forces, not Force of all Wills. From these riddles arising on the absolute side of his philosophy I turn to its opposite phase, to explain the modified form into which he threw the Kantian Idealism.

Accepting the fundamental doctrine of the subjectivity of Time and Space as forms of Perception, and of the Categories as laws of the Understanding, and ranking it among the greatest of discoveries, Schopenhauer unconditionally assents to the proposition that, in the absence of the thinking subject, there would be no natural objects, and that it is his presence that constitutes the world. But the details of the Kantian analysis he submits to several corrections and simplifications; softening the hard line of distinction between 'Sense' and 'Understanding' (*Anschauung* and *Denken*), so as to invest Perception with an intellectual character; and reducing the twelve Categories to the single head of *Causality*, which, when thrown into the form of the *principium rationis sufficientis*, may be shown to include all the laws of intelligence. As the most comprehensive enunciation of this principle he selects that of Wolf: 'Nihil est sine ratione cur potius sit, quam non sit.' Quitting, therefore, the rampart of the categories, leaving silent the triple armament on each of its four bastions—of Quantity, Quality, Relation, and Modality—he goes forth with his light equipment of Time, Space, and Causality, pledged to overrun the whole objective world and fetch in all that it contains, to be appropriated

by the insatiable Subject. The process of conquest, the idealist annexation of province after province of every real, is not perhaps so much simplified as he supposes. The principle of *ratio sufficiens* may be stated in one sentence, but not understood and assented to as one judgment; as becomes evident the moment you test its pretended identity with the law of Causality. You then perceive at once that the word *ratio* is ambiguous, and enters as a constitutive member of relations which are essentially different, and on that account referred by Kant to distinct heads. Schopenhauer so far recognises this[1] as to prepare his principle for application by presenting it under four separate forms, distinguished as the ratio *essendi*, the ratio *fiendi*, the ratio *agendi*, and the ratio *cognoscendi*. The generic unity of these, which seems to be implied in the word 'ratio' common to them all, is illusory. The ratio agendi is *ethical*, and is out of place among the logical categories. The ratio cognoscendi, as regulating *mediate* judgment, belongs to the discursive or inferential Vernunft in its mode of wielding Kant's quantitative relation of universal and particular. The ratio essendi is *mathematical*, and depends on the *a priori* forms of Space and Time alone. And not till we come to the ratio fiendi do we alight upon the relation amenable to the law of Causality. Of the four heads, the last two have the aspect of nearest affinity: yet the slightest reflection shows what different kind of answers they render to the question 'Why?' Compare the ground which we assign for what always *is*, and that to which we refer what transiently happens. Why is the tangent of a circle at right angles to the radius at the point of contact? or an arc's angle at the centre double that at the circumference? or a cone one-third of the cylinder of same base and altitude?

[1] In one passage he says, *totidem verbis*, that the principle of the sufficient reason is 'ein gemeinschaftlicher Ausdruck für vier ganz verschiedene Verhältnisse.' Ueber die vierfache Wurzel des Satzes vom zureichenden Grunde (ed. 1864), § 52.

These properties are deduced from others previously established for the same figures; but the order of deduction is susceptible of change or inversion, and, as in the case of the conic sections, is frequently turned round; so that the dependence of truth on truth is reciprocal, and all have their source of deduction in the particular property which happens to be selected for the definition of the figure. This is the λόγος which gives account of the series; but it realises nothing, and makes nothing true which was not there and true before; and it is a matter of arbitrary choice or convenience that it does not take a consequent instead of an antecedent place. In the field of phenomena, on the other hand, we require an αἰτία which admits of no such transposition, and obtain a concatenation which is rectilinear in a uniform direction; e.g. the movement of the earth in its orbit from the winter solstice brings our hemisphere under less slanting solar rays; which gives more heat, which stirs the sluggish vegetable sap, which developes the germs of leaves and blossoms, which fructify their seeds, which yield the fruits. Here we have to do with a different ultimate law—the law of *Causality*, and no longer with the laws of *figure and number*. We cannot speak of the *cause* of the three angles of a triangle being equal to two right-angles; we cannot speak of the *reason* or rational ground of the rising sap or of the changing moon; the one, as a constant truth, goes back for its explanation to the given nature of geometrical and arithmetical magnitude; the other, as an event that happens, goes back for its explanation to the originating source which our understanding requires for every phenomenon. In the two cases our questions are laid to rest upon different data of thought; and to disguise that difference under the loose mantle of a term not made for both is sure to betray us into mistaken identity.

I have said that Kant's sharp distinction between 'Sense' and 'Understanding' was not retained by Schopenhauer; and this divergence in the disciple is very observable in the

account he gives of our belief in an external world. With Kant, the 'outer sense' alone is responsible for the belief, which becomes possible as soon as the idea of *Space* is given; while the 'inner sense' with its representation of *Time*, suffices for the self-knowledge of successive or historical experience. With Schopenhauer, such separation of function is logically impossible; and in order to constitute the idea of objective reality, the understanding has to step in and secure the combined action of the two forms of sense. The mode of their co-operation, and the proportion of their contributions to the result, are thus defined by Schopenhauer in his earliest treatise[1]: 'If Time were the sole form of presentation (Vorstellung), there would be no co-existence, therefore no permanent, and no duration; for time is perceptible, not as empty, but only as occupied; and its lapse is perceptible only by change of occupant. Duration of an object is therefore known only through contrast of change in others co-existent with it. This representation, however, of co-existence, is not possible in mere Time; but, for the other half of its condition, requires the representation of Space; because, in Time everything is successive; in Space, everything is side by side; the two must unite, to give rise to co-existence and duration.

If, on the other hand, Space were the sole form of presentation, there would be *no change*; for change or alteration is a succession of states, and succession is possible only in Time. Hence Time might be defined as the possibility of opposite states of the same thing.

We see therefore that the two forms of empirical presentation, though having in common infinite divisibility and infinite extension, are in this respect fundamentally different; that what is essential to the one is without meaning in the other,—co-existence in time, succession in space. Yet the empirical presentations which constitute the regular tissue of reality present themselves in both forms at once;

[1] Ueber die vierfache Wurzel des Satzes vom zureichenden Grunde, § 18.

and it is just the inner blending of the two which is the condition of Reality, and makes it a product of them as factors. This blending is effected by the Understanding, which has the function of combining these heterogeneous forms of Sense, so that from their reciprocal interpenetration (though only for its subjective use) there arises *empirical Reality* as a whole.'

The particular act of the Understanding which effects this co-partnership of Time and Space is further explained to be the law of Causality. This is a rule over and above the *a priori* properties of pure Time and Space. Their separate infinitudes would admit of countless and endless phenomena and conditions, needing no order to prevent their mutual interference; but the Understanding so relates the two together, as to say that every phenomenon at one point of space must be preceded by another at the same point; and that therefore phenomena cannot present themselves at the same point of time except at different points of space. This rule could not come into operation in empty time and space; not till they are rendered perceptible by something in them, are the phenomena there to which the rule applies; and that 'something there' is what we call *Matter*, which having on us the *effect* of Perception is *operative or Causal*; and two co-existent phenomena, in their need of two causes, must be referred to portions of matter planted apart in space. Thus the law of Causality is but the *a priori* forms of Time-succession and Space-extension, with their possibilities turned into actual experience by being filled with changes felt; the aggregate of which constitutes what we mean by Nature or Reality[1].

It is plain that these modifications of Kant's doctrine qualify its idealism only by completing it. Everything is spun out of subjective conditions,—inner-sense form, outer-sense form, the blending of these by the Understanding; the consequent appearance of an objective world, which however 'exists only for the subject as his Idea'; and the subjection

[1] Die Welt als Wille und Vorstellung, i. § 4.

of the world to the principles of the *ratio sufficiens*, which itself is his *a priori* law for dealing with it[1]. The only possible result is, that he is the miniature of the world he contemplates, and it is the reproduced *monstrum ingens* of himself; the one a μικρόκοσμος, the other a μακράνθρωπος. The difficulties therefore with which subjective idealism is burdened are not lightened. And though, in the other half of his theory, identifying the universe with Will, he professed to have alighted on its real essence, it is difficult to see why this element, planted out there from the subject's own personal consciousness, should be exempt from the prohibition which shuts out all other individual a-priorities from being predicable of what is other-than-self. If it is to be a rule at all that the contents of empirical consciousness are invalid for all that is beyond consciousness, it surely must be a rule without exception.

§ 2. *Helmholtz and J. S. Mill.*

Our belief in an external world of things and persons,—that grand *crux philosophorum* among the Idealists,—is sometimes explained out of Schopenhauer's three elements, Time, Space, and Causality, only taken in a different order. He takes the first two as native pre-suppositions of Sense, inner and outer, and then, by fetching in the law of Causality to operate in their fields, obtains the related contents of the subjective and objective worlds. The empirical psychologist, dispensing with all *a priori* 'forms,' undertakes, with the law of Causality alone, to go in among the sensations and make them supply the ideas of time and space, and furnish both the external scene itself and the whole order of material Nature. Our belief in their existence he regards as an *inference* from the axiom that every change must have its cause. The phenomena that are started by our own volition we are conscious of ourselves causing; the phenomena that emerge in our passive re-

[1] Die Welt als Wille und Vorstellung, p. 13.

ceptivity, being excluded from this category, we have to refer to a cause other than our Will; and in this capacity it is that we set up a universe of objects. Nowhere is this view more skilfully presented than in Professor Helmholtz's *Handbuch der physiologischen Optik*, 1867 [1].

The discovery of an external world, he thinks, is due to our locomotive power of experimenting with the sensations given to us by objects. If the same phantasmagoria of change were played off on our passivity by foreign agency, we should not know what to make of it, any more than men could interpret at first the planetary movements exhibited in the heavens. We find however that, a table being before us, we are able, by shifting our place, to get all sorts of perspective views of it, or to lose sight of it altogether, though only to recover it at will; and so arises the conviction that our movements are the ground of certain altered or vanished appearances; and that, whether we actually see it or not, we *can* see it if we will. Thus through our movements we gain *the permanent image of the extended table* as *a possible object of perception.* In such cases, there is a part of the changes in our impression dependent on our will, and a part independent of it; and the latter is the ground of our belief in a *permanent object.* It is in distinguishing between the two that the principle of Causality comes in. We could never make the step from the world of our own feelings to the idea of an external world, except by reasoning from the variation in our consciousness to outward objects as *causes* of this variation: our will disowning it, the claim lapses to them as *not-our-will.* If we are now unaware of this step, it is only because, when once we have got this idea of outward objects, we cease to think how we came by it; particularly because the conclusion seems so self-evident, that it does not affect us as a result which we have gained. Thus the discovery of an external world is a reasoning from effect to cause; we provide that world as *Cause* for what *we* do not cause;

[1] § 26, S. 452–455.

and without the law of Causation we could have no experience of natural objects.

So far as this exposition gives account of our division of causes into two,—our own activity, and not our own activity, it is perfectly satisfactory: it reports correctly the birth of the dynamical antithesis of which I have spoken (pp. 61, 62) as not waiting for the forms of time and space. But so far as it is an attempt to deduce *the geometrical antithesis from the dynamical*, to get the *idea of externality from that of causation*, the theory will not work. For surely the distinction between *voluntary* causation and *involuntary* is not identical with that between *inner and outer*, and carries in it no space-representation whatever, unless you have already divided your world into a *here* for the Will and a *there* for all else. Not till this is done, does '*other than my will*' become tantamount to '*external to myself*' as an epithet of causation. Send me forth on my experiments unprovided with this geometrical antithesis, and with knowledge only of my sensations, present, past, and future, and with the intellectual need to supply them with a cause, and I am for ever shut up in the line of Time, where all my experiences, reminiscences, anticipations, of my own states lie, and within which several involuntary causes of my mental phenomena are found.

Mr. Mill indeed undertakes, out of these time-data alone, to get up a belief in an external material world[1]. For that belief, he thinks, amounts to no more than a reliance on the rules of *contingent sensations*;—an assurance that the sensations I have belong to a set which I simultaneously *might have*, or to a series through which it is possible for me to be led. To think of anything as *externally existing* is to put it *out of our time*; to suppose it to be *when* we are not thinking of it, *before* we thought of it, *after* we are dead, nay, though it never was perceived by man. Now, as sensations come to us in certain stated clusters, the colour, for instance, and the form of a lemon, along with

[1] Examination of Hamilton's Philosophy, 1865, chap. xi.

its scent and flavour, etc., they cling together in groups, and each that is actual suggests the rest as possible, giving us the idea of a present object. As other sensations come to us in stated succession, certain muscular movements, for instance, and the sight of certain lines of streets, resulting in the view of Hampstead Heath, they also hang together in regiment, and each one in immediate consciousness carries the belief that the rest are to be had by following out the series; and this is our faith in an absent object. These are ideas which we could not help having if we were simply the theatre of orderly sensations, and retained their order in idea by the acknowledged laws of association. We therefore become familiar with permanent possibilities of sensation which remain, whether we actually experience them or not; the more so as they are found to belong to other people as well as to ourselves, and are the subject of their talk and expectation, though under actual sensations different from ours. They thus win a permanence independent not only of our personal variations of state, but of all human changes of feeling; i. e. they coalesce with the conception of '*external Nature*.'

This explanation of our belief in a material world seems to me open to several conclusive objections.

(1) It assumes throughout that we can conceive of a thing existing though we are not thinking of it, i. e. of two facts, the thing which is not thought of, and the thought which is not of the thing, subsisting at one and the same moment. This is *simultaneousness*; and of simultaneousness no notion can be formed without resorting to space as well as time. 'Der Raum,' says Kant, 'ist die blosse Vorstellung einer Möglichkeit des Beisammenseins:' and 'Der Raum selbst ist nichts anders, als blosse Vorstellung[1].' No two times can be together; nor in time alone can there be any order but the successive; and to have a plurality at one time, you must have *coexistence*, i. e. you

[1] Kritik der reinen Vernunft. Kritik des 4ten Paralogisms der transcendentalen Psychologie, Rosenkranz, ii. p. 299.

must difference by place what you identify in date. Thus the one idea which is to be deduced is secured under a disguise among the data.

(2) The same assumption is again made, when sensations are said to exist and to be conceived *in groups*. This is simultaneousness in another form; and, far from being the cause, is the effect of our idea and our analysis *of the object*. Take away all cognizance of our different senses as distributed in our body, and all idea of the object as having dimensions and parts for the seat of its qualities, and what room will there be for the conception of *grouped* sensations? 'Linked *sensations*' are concurrent affections of different senses, and are localised in the organism. Linked '*possibilities of sensation*' are concurrent causes of my feelings coexisting out of me, and are localised in the object; for instance, the colour, flavour, scent, hardness, of the lemon, conceived as shut up within the dimensions of its ellipsoid form.

(3) Of the two simultaneous things compared, one, viz. my sensation, is transient, the other, viz. the possibility, *is permanent*. Now of the permanent (as Schopenhauer has shown) we can have no cognition without the coexistence of change with no change; so that we are once more thrown upon this experience, to which time, without space, is incompetent.

(4) Mr. Mill says[1], 'I see a piece of white paper on the table. I go into another room, and though I have ceased to see it, I am persuaded that the paper is still there. I no longer have the sensations which it gave me; but I believe that when I place myself in the same circumstances in which I had those sensations, i. e. when I go again into the room, I shall again have them; and further, that there has been no intervening moment at which this would not have been the case.' Is then this process of thought merely a belief in the consecution or possible futurity of my sensations? Has it therefore nothing to do but with

[1] Examination of Hamilton's Philosophy, chap. xi. pp. 192, 193.

time-relations? Why then can it not be described in terms of successional order alone, beyond which no piece of purely egoistic history can ever go? Yet here we have at every step a resort to the language and representations of Space; the white paper is seen *on the table* (perceived position); I go into another room (motion or change of position); I am persuaded it is still *there* (conceived position); I *place* myself in the same *circumstances* (locally *move* into a given set of *external relations*); and on fulfilment of all these space-conditions, I expect to see the paper again. No doubt I do; but is it *from expecting the sensation* that I believe the object to be there? Is it not inversely *from believing the object to be there* that I expect the sensation? When I think of the paper as now in another room, while I am seeing something else, is there any trace of my imagining *future* possible sensations? Is it not rather a purely synchronous relation which engages me, of two distinct places, the paper *there*, myself *here*? Again, we find, says Mr. Mill, that 'possibilities of sensation' undergo modifications (i. e. things change) 'independently of our presence or absence;' the fire goes out, the corn ripens, whether we are there or not, subtracting or adding possible sensations; and to this independence we give the name of Externality. Perhaps we do; because the '*presence or absence*' of which the phenomenon is independent already carries the externality in it; for I am 'present' when I am within ear-shot or eye-shot of the phenomenon; 'absent,' when I am away from it; and if the phenomenon occurs in either case, my local relation to it is indifferent, and its history is outside of mine. Nay, finally, the very phrase '*possibility*,' behind which Mr. Mill thinks to make good his escape into the internal world, has no meaning in this connection, unless as an abstract substitute for the phrase '*external cause*,' of sensation. We do not believe in possibilities *per se*; they are not phenomena which we see, hear, or touch; they are not entities given us *a priori*; they are our estimate of what may come from causes assumed to

exist; and when we believe a sensation to be possible, it is because we recognise the cause as there which has given it us before, and needs only to be 'present' to give it us again. In other words, it is the external object which gives the possibility; not the possibility which gives us the external object. Beneath the whole language of this doctrine, the very conceptions are thus surreptitiously introduced for which it is intended to furnish an idealistic origin.

(5) 'The final seal to our conception of the groups of possibilities as the fundamental reality in Nature' is put by our discovery that other people reckon on them as we do, in spite of the difference of their immediate sensitive experience. But we can hardly wait for this to settle our belief in a world beyond ourselves; for how can we know anything of other people's calculations, or of their existence, while we are yet on our way to the conception of any external non-Ego at all? They are a part of the very sphere of given objects for which Mr. Mill undertakes to find a genesis within the subject; and to prove the thesis by their aid is either to renounce it, or to call them as witnesses to their own non-existence. If it is from the study of others' experience that we assure ourselves of the outward scene, they must teach us the lesson before they are there; for to notice them is to have noticed it which holds them. Whatever account may be given of our belief in the presence with us of minds like our own, the order in which it arises cannot be that which is here implied; it is not tributary to an unformed apprehension of the non-Ego; but an expression of it in its maturity.

Mr. Mill however devotes a separate discussion to the origin of this belief[1]; and we naturally turn to this ampler expression for relief from the difficulty in which he leaves us here. Having taken the non-Ego into the Ego as its 'guaranteed possibilities of sensation,' and woven it into the line of the internal personal consciousness, he proceeds to break up the permanent unity of the Ego, and resolve it

[1] Examination of Hamilton's Philosophy, chap. xii. p. 204.

also into the series of its successive states attended by the idea of contingent possibilities of feeling different from the present ones. The notion I have of myself is that of my immediate conscious state plus that of an indefinite variety of other mental states, familiar by experience, which I may have; the aggregate of these conscious phenomena ἐν δυνάμει constitute my personality. By this method of resolution the Ego becomes a mere '*possibility of mental states*.' As the non-Ego has also been reduced to '*possibilities of sensation*,' they seem to approach very near to one another, and the question arises, how are we to make good the antithesis between them. The difference lies in the *different range* of the two possibilities; in the case of the non-Ego, it is limited *to sensations*; *they alone* give to the chance of their occurrence the name of 'external world'; in the case of the Ego, it extends to *all sorts* of feelings and conscious states,—emotions, volitions, reasonings, etc., as well as affections of sense. Both are part of one and the same series,—the continuous thread of my conscious life. But the former picks out upon this line a small and definite section, or set of sections, this or that knot or reach of sensations, which under certain conditions may be distinctly preconceived; while the other includes without selection the whole indeterminate tissue of possibilities. Again, the small and definite section, besides being restricted to *sensations*, has these sensations *in groups*; while in the mixed and indefinite continuum which we call Self, the states of mind present no cases of the coexistence of separate elements. There is also, we are told, the further difference, that the former are 'possibilities of sensation' *to other people* as well as to myself; while the latter are for myself alone. Superinduce these three specialties upon the thread of internal consciousness; possibility of *sensations* among the 'mental states'; possibility of '*groups*' among the sensations; possibility of sensations to *others* with myself; and you have all that you mean by an external world.

I venture to affirm that the first of these distinctions gives us nothing external, and that the other two presuppose it.

1. The difference between the possibility of any mental state you please and the possibility of sensation in particular, is a mere difference of scope between genus and species; and to take the former as equivalent to the Ego, the latter to the non-Ego, is to say that the non-Ego is a part of the Ego, or that the Ego contains its own contradictory. No difference of range, no definite selection from the indefinite stream of my inward feelings, has the least tendency to take me out of the line of these feelings, and to present me with what is not a variety among them, but in antithesis to them all. This is so obvious, that one looks about for the obvious source of so strange a piece of psychology. It is perhaps to be found in an unnoticed ambiguity of the word '*possibility*.' The belief in *myself* certainly involves belief in the 'possibility of mental states,' i.e. in the possibility *of my having them*. The cognition of a solid body involves a belief in the 'possibility of sensations,' i.e. in the possibility *of its supplying them*. But these are not the same belief, taking in the two cases a different range; they are two beliefs, in two separate causes of the phenomena expected, viz. in *myself*, as susceptible of all sorts of feelings, and in an *external object*, as capable of giving some. Apart from all contrast in point of scope, and in the single instance of possible perception itself, expectation of future sensations is different on the inner and the outer side. The egoistic belief virtually says, '*I am here* to see, to feel, etc., if only the thing is there.' The non-egoistic says, '*The thing is there*, to be seen, felt, etc., if only I am;' i.e. the possibility is internal in the one case, external in the other. Take away this prior idea of a cause, and the possibility, left without support, falls to the ground; and to keep it standing, you must rest it on the duality of the cause. Misled by the sameness of the word, Mr. Mill has taken these heterogeneous possibilities for homogeneous; and has tried to add on to the word by

further differentiation the distinction which already exists within it and gives its only intelligible meaning. He thus shuts himself up within internal phenomena, without escape into anything external.

2. The next distinction, that among the sensations there are *groups*, but among the mental states in general, none, is, in the first place, not true in fact, on the principles of Mr. Mill's own psychology. The *groups* to which Mr. Mill refers are the clusters of sensations involved in the perception of *objects*, which speak to several senses,—the eye, the hand, the nose, etc. at once; and report to one of these, the eye, a number of qualities together, the form, the size, the colour. These are the 'separate elements that coexist' in 'what we call outward objects.' Is it then only in the actual sensations that this coexistence has place? Is it not retained in the *mental representation* which they leave behind? and, on a reduced scale, in the *concept* of the Kind? and are not these a part of the mental series which is said to constitute myself? If it be objected, 'Yes, but they belong to *that part* which expresses the *possibility* of sensation, though not amounting to its actuality,' then I ask, whether beyond this limit, among the remaining 'thoughts, emotions, volitions, etc.,' no instance is to be found of a 'highly complex idea,' from which moreover the conscious traces of its composite character have not been effaced? When Mr. Mill himself maintains that 'the moral feelings' are 'complex,' and raises the question 'of what elementary feelings they are composed;' when he tells us that the attribute 'generosity' carries two meanings consciously united in one thought, viz. 'a state of the mind itself,' and 'a state with which other minds are affected by thinking of it;' does he not supply instances of 'separate elements which coexist?' Is my idea of three not the idea of a group? and is there no complication, which definition may unravel and lay out to view, in the thought expressed by the words *Fault*, *Law*, *Science*, *Meditation*? Mental aggregates are just as common in the purely personal part of the field of

consciousness, as elsewhere; and there is no point of a mature mind's history into which there are not numerous confluents; and however perfect their fusion may tend to become, the result is reached only through stages of conscious coexistence.

But, in the next place, even if the psychological fact were truly reported, the notice of sensations in groups is itself conditional, as I have shown, on our already having the idea of externality. We may *have* several sensations together (every complicated animal always has), but we cannot *know them to be together*, without planting out them or their causes apart from each other. The act involves the idea of *simultaneousness*; and a plurality of things cannot be assigned by us to one time, except by allowing them a place a-piece. The *quæsitum* therefore is put into the *datum* to be taken out again. Indeed the word 'groups' denotes an external aggregate, and cannot properly be applied to the mental phenomena in themselves, though it is admissible and convenient in the analysis of their *sources* or *objects* as given in the outer space.

3. The third distinction, that the sensations in question are possible *to others* as well as to myself, so obviously assumes the externality which it is introduced to explain, that it is needless to pause upon it. Till we have got the door open out of our own egoistic chamber, and found that there is a field beyond, it is premature to serve a summons on inconceivable people there, to come and bear witness to its existence. The question being, how, in my unbroken solitude, I get to believe in what is other than myself, there is more humour than philosophy in the answer, 'Other persons come and tell you.' Is then their separate existence unattended by the difficulty of reaching the rest of the external world to which they belong? Is it exceptionally cognizable, so that through it we may step to the less known material scene? On the contrary, philosophers have usually selected the belief we have in the presence of other minds as the hardest knot which the idealist has to untie.

The problem however has no perplexities for Mr. Mill, who states the grounds of this belief to be the following [1]:

I see and hear walking and speaking figures; which exhibit, in two ways, features known from my own case to be marks of feeling, viz. bodies as antecedent conditions, and gestures, acts, etc. as consequent expression. In myself I experience in order the three steps, antecedent, feeling, consequent; in the case of others, I see only the first and third; but infer the intervening presence of the second, from analogy to my history. This reasoning remains undisturbed, though more cumbrously presented, if we translate it into the idealistic language, and for my body and other bodies substitute the phrase permanent group of possibilities of sensations. Among those groups is *one* (my own body) which plays the part of antecedent of any sensation realised from the others [i.e. without a change in my body, no feeling from any other]. Looking about me, I see other groups resembling in sensible properties this particular one, but not calling up a similar 'world of sensations in my consciousness.' Since not in mine, I infer that they do so in another, related to it as mine to my body.

This exposition appears to me to give a satisfactory account of *the wrong problem.* If the proposition were '*Given other people*, to prove that they have feelings like my own,' it would be legitimate to pass by analogy from our own case to theirs. But the relation of the *data* and *quæsita* is quite different, viz. this, '*Given my own feelings*, to prove *that there are other people.*' Mr. Mill starts with assuming 'walking and speaking figures,' not as entoptic affections, sensational modifications in myself, but as distinct from myself, and susceptible of comparison with myself, and presenting, as the result of that comparison, a correspondency of marks in the two instances, from which is inferred a latent correspondency in a third. Need I say that this assumption, of the objectivity of the 'figures,' contains the

[1] Examination of Hamilton, chap. xii. pp. 208, 209.

very pith of the thing of which we are in quest? The question is not, 'How do I know that, among the objects in the non-Ego, some have probably an experience like mine?' but, 'How do I know that, among the phenomena of the Ego, some are beings in a non-Ego?' and the difficulty is by no means to characterise and class correctly the *things other than self* when you get them; but to pass out at all into *otherness*. On the idealistic principle, everything known is still within the mind; *other* than which, or otherwise distinguished than as its various phenomena, i.e. as sensation, thought, emotion, etc. there can be nothing cognizable. Over this impassable chasm, cutting off the idealist from the negative of self, Mr. Mill ventures on his personal leap; but he does not help us to follow him; or tell us how he manages to leave himself behind him. As soon as he tries to avoid all objective language, and translates his reasoning into the terms of his own theory, his inability to move except within the Ego, or to obtain any other point of reference, becomes apparent, though disguised by a fallacy of ambiguity. The argument turns on the three successive characters in myself, my body, my feeling, my gesture of expression; of which the first and last are marks, antecedent and consequent, of the middle; and are presented to view sometimes (i.e. in not my own case) without the middle. The marks, being not yet objectively known to me, are nothing but 'groups' of my own sensations. These things being remembered, we may present the idealistic phenomena, both when I feel and when another feels, by the help of symbols, thus: Let A = that 'group of possibilities of sensation' called the human body; B = any particular sensation of which A is the antecedent; β = the idea or memory of the same; C = that 'group of sensations' called the gesture or act of expression in A, consequent on B. Then the difference between the two compared cases will stand thus: When I feel, A is followed by B, and B by C. When otherwise, A is followed by C; and association established by the prior case leads me to think of B as inserted between them, i.e. to experience β:

in other words *the idea of my sensation* is suggested by the experience of the two connected groups. But the *idea of my sensation is not the belief in other people's*; and this is the result which we require.

Mr. Mill is fond of telling his critics that they have not 'thought themselves sufficiently into' his theory; else they would see that there is nothing the matter with it; and that their objections are directed only against his unavoidable resort to the common objective language in his description of the subjective phenomena. In the face of this dismissal of all remonstrants back to their desks to learn their lesson better, it seems presumptuous to doubt whether our author himself always distinctly sees the conditions of his own problem and the force of his own terms. But in the foregoing exposition does he not impose upon himself by assigning a double function, under a single phrase, to other people's *body*? He calls it, as he calls *our own* body, 'a group of permanent possibilities of sensation.' Group however, we must ask, of *whose* sensations? Is it of my own, who only *see* the body, or, it may be, *touch* it, but have not its feelings? *If so*, if to me it is only visual and tactual sensations of my own, and if neither in this term A, nor in the last C, which, as gesture of A, is in the same plight, is there any conception of *another than myself*, there certainly will be none introduced by the suggested β, which is the idea of *a sensation of my own*; any more than there would be if, in my own body, the gesture C should take place by exceptional mechanical spasm apart from the usual feeling B, and should excite in me the idea β. Mr. Mill would hardly maintain that if in my own person the phenomenon were thus reduced to its visual form, I should be led to conclude that another had the missing feeling, i.e. that I was somebody else. If, on the other hand, by 'group of possible sensations' be meant, not my own (the visual impression of human form), but *another's* sensations (the possible feelings of a human organism), then the external

being, who was to be brought out as an inference in β, is already surreptitiously introduced in the data *A* and *C*.

I have said that the difficulty, on the idealist theory, is to get to *other than the Ego* at all: everything known being still within the mind, nothing but *home* dissimilarities, giving varieties of kind among the inward experiences, can present themselves; and for the conception of what *negatives the Ego* there can be no room. How then does Mr. Mill suppose himself to reach this *otherness*? He finds it among the home dissimilarities connected with our experience of the human body. In one case we *see* this object, we *touch* it, (say, by grasping our arm), and, in doing the latter, we have tactual and muscular sensations twice over (in the hand that grasps, and in the arm that is grasped). In another case, we also *see*, and *touch*, as before; but we have the tactual and muscular sensations only once (in the hand that grasps). The two internal series therefore differ by a term; the former being visual, tactual, tactual; the latter, visual, tactual; and this difference it is which we are said to mark by the antithesis of self and other-than-self: the lacuna of a sensation, reducing the trio to a pair, though it is wholly an internal variation, is what we mean to mark by the language of externality. Must we not say that if this be all the *otherness* there is, the language of externality describes it very inaccurately, and with the addition of an hypothesis wholly superfluous, that a mere two-thirds of an internal phenomenon could no longer be internal. This hypothesis, we are assured, is justified by inductive analogy; since the instances are alike in two parts, we may infer their resemblance in the third; that third, thus supplied in thought, is a feeling of my own; and, since it is absent from me, I can only refer it to some one else. But is it not evident, that before I can conduct this reasoning, before I can contemplate a feeling as present with me or absent from me, before I can conceive of its existence elsewhere than in my consciousness, I must already have

discriminated myself from what is not myself; and that thus the issue of the problem is imported into its solution? Besides, this argument of analogy rests on the assumption that like effects imply like causes; and involves therefore *the law of causality*, which is itself conceivable only co-ordinately with the idea of externality. In short, you can never explain the belief in a non-Ego as the inferred site of feelings which, though existing, you find missing from your own mind; because to refer feelings to yourself at all, whether you find them or whether you miss them there, is to have settled the boundaries between a sphere that is yours and one that is not. All that you can learn from the analogical argument is that, in the known non-Ego, the particular cause (or effect, as it may be) of what you see is a mind like your own.

For these reasons, I cannot admit that the belief in outward space and its contents can be psychologically evolved from the inward Time-successions of our mental states; but must maintain that it is intuitively given as a primitive condition of any cognitive act at all. We thus reinstate the disturbed balance between the inner consciousness and the external perception, and give them equally whatever rights may belong to original forms of thought. Mr. Mill's empirical idealism has no advantage over Kant's *a priori* idealities. On the contrary, it leaves us with a double discontent: invalidating, no less than the Critical Philosophy, all knowledge that will not own itself mere self-knowledge; and, in addition, failing to account for the illusory belief in a world of objective realities antithetic to ourselves. It is a curious coincidence that neither philosopher practically believed in the sceptical conclusions of his own system: Kant, as we have seen, leaving the Ding-an-sich still in possession of existence, and re-constituting in his Ethics the relations which he had cancelled in the criticism of the Pure Reason; and Mill, like his predecessors of the English school, resorting wholly to the outward world to mould and build up the

human subject, whose consciousness was at last declared to contain all that there is to be known. The mind cannot make both its *cognita* and its *cognitio*. It is beyond the cunning of philosophy to dispense with standing-ground for its own feet; or, if this be too low an image, with atmosphere for its own wings.

CHAPTER IV.

Relativity of Knowledge.

Ἐκ τοῦ Πρωταγόρου λόγου λάβωμεν τὴν ὁμολογίαν· τὸ δοκοῦν ἑκάστῳ τοῦτο καὶ εἶναι φησί που ᾧ δοκεῖ.—Plato, *Theæt.* 170 A.

We are not however clear of all difficulties when we have adjusted the claims of the empirical and the *a priori* psychology; or even when we have wholly disengaged ourselves from the self-enclosure of subjective idealism, and owned the presence of objects not made by our consciousness. Though the outer world be no dream of our thought, but a real scene conditioning our experience and affected by it, still what guarantee have we that it is what our belief represents it to be? It can tell us only what our ways of thinking are shaped to admit. Our minds being constituted as they are, we think in our present fashion; were they constituted otherwise, we should think in a different fashion; though beyond us no corresponding change were made. We should in each case be liable to feel the same intuitive certainty; yet in one of them, perhaps in both, the trust would be illusory. The possibility thus suggested that even our ultimate principles of cognition may be out of joint with reality and justify no predications about 'things as they are,' must now be considered. Those who dwell upon it present it under the title of the *Relativity of human knowledge*. It appears in several modified forms, and in the ancient philosophy as the doctrine of

§ 1. *Homo Mensura.*

It is evident from the force of the term that in all 'knowledge' there must be two factors, a person to know, and a

thing to be known; and that the knowledge resulting is the mode in which the constitution of the latter affects the faculty of the former. It is therefore *a relation* between the two, and must vary with every change in that relation: the knowledge which a blind man has of an apple or of the fire being not the same that is possessed by a person with eye-sight. The effect of this evidently is that, if we suppose either term to be constant while the other varies, the product must proportionally change; and if the objective datum be fixed, the rule arises '*recipitur ad modum recipientis*.' In this form the doctrine passes into the shape in which, as regards perception, it was presented by Protagoras: that the apparent must to us ever be the real: that what was bitter to the sick palate was sweet to the healthy: what was large to the child was little to Hercules. It is obvious that this implication of the object with the subject is not limited to cases of external perception, in which, from the variation of the percipient organ in different persons and in the same person from time to time, we are best able to notice it. If no such variation took place, it would equally hold, though it would not betray itself by inconsistent judgments. And if there be parts of our nature which escape the liability to change, if our intellectual cognitions are constant, this only conceals from our consciousness, and does not remove, the relative character of the knowledge which they give. A man may be wholly engaged with the thing to which he attends, and forgetting himself and the processes of his mind, may suppose that he apprehends it unconditionally in its isolated reality; but he cannot escape himself as the apprehending nature, or stand clear of the limits of his own faculties as the only media of his knowledge; and their laws mix themselves up with whatever is objectively given, and, like a refracting substance, modify the form and colour of the light which finally enters the consciousness. It is therefore perfectly true that the relativity of objective knowledge to the capacity of the subject cannot be limited to αἰσθητά, but

applies no less to *νοητά*: and when Mr. Grote protests against confounding the doctrine with the perfectly distinct psychological theory that there is no cognition except of the perceptive sort, his criticism is logically unimpeachable[1]. But historically I cannot imagine him to be justified in discussing the Protagorean thesis—Homo Mensura -as if it were identical with the modern doctrine in its whole extent, of the necessary correlation of subject and object, and in condemning Plato for conducting his polemic against it on the narrow ground of sensible cognition. By imparting into his critique of the Theætetus the antithesis now so familiar to us between the Ego and the non-Ego, and taking the large modern conception of their relativity as his key to the probable teaching of the great Sophist, Mr. Grote appears to me to have seriously misconceived the Greek doctrine, not only in the case of Protagoras, but even in that of Aristotle. The comprehensive relativity now insisted on was absent from the ancient philosophy altogether: neither did Protagoras affirm it, nor Plato deny it. The '*Homo*' whom the one accepted and the other discarded as the '*Mensura*' was not the whole mind occupying the human being as we take him in his insulated completeness. It did not include the impersonal and superhuman *νοῦς*, with its *εἴδη*, at once subjective and objective, which not only *gave cognizance of real being* but actually *were real being cropping up in thought.* These *εἴδη*, regarded as cognitions of ours, correspond with what modern philosophy calls intellectual intuitions; and the *entia Rationis* to which they introduce us are certainly, in our mode of viewing them, *relative* to the intuitive faculty which contemplates them, therefore relative to us who have the faculty. But these two related terms, the intuent act and the thing intued, were, in the view of the Greek Realist, *only one*, the same reality pervading in common the realm of existence and that of thought: they are not described in the language of comparison as separate or

[1] Grote's Plato, chap. xxvi. vol. ii. pp. 325–335.

separable things, but are treated as *identical*, the point of union or fusion of the ἐπιστητόν and ἐπιστήμη. In claiming for us access to this field, the Realist meant to invest us with the power of *transcending our own personality*, and becoming *partners* in the universal Mind: the εἴδη were not ours, to be enumerated among the anthropological phenomena; we were only *partakers* of them, and, in so far as we had share in them, were rather gods than men. If we measured the world by them, we measured it by no human rule; but, on the contrary, we fetched our criterion from the universal, the divine, the objective and eternal Reason, and by this detected the illusions to which the limits of our own nature expose us. This was Plato's meaning when he denied the doctrine of Homo Mensura. And, on the other hand, Protagoras in denying us access to any such transcendent sphere of the *Real*, cut down our nature to a susceptibility of the *phenomenal*; a susceptibility which partakes of the transiency and variableness of the phenomenal, and which therefore changed its reports from person to person, and from time to time in the same person, and accordingly could never give rise to more than δόξα. Thus reduced by the elimination of his supposed superior capacities, *Homo* as the measure of all things, becomes with Protagoras a being simply of Perception and of judgment from perception; and the doctrine of the Mensura *is* equivalent to the theory that 'knowledge is sensible perception.' So far as the language of this controversy goes, Plato and Protagoras were agreed in making ἄνθρωπος and αἴσθησις coextensive; the Sophist dismissing from humanity all that is beyond, as fictitious; and the Realist, as transcendent.

The great historian not only credits Protagoras with the modern doctrine of the relativity of knowledge, but attributes to Aristotle the Protagorean opinion, in spite of an express refutation of it in his Metaphysics[1]; where he says, 'If not all things are relative, but some also are entities of

[1] Γ. 6. 1011 a, 17 seqq.

themselves, it is impossible that the apparent can be co-extensive with the true; for the apparent is the apparent *to some one*; so that he who affirms the apparent to be the true, makes all existence relative.' It is hardly possible to conceive a more distinct repudiation of the Homo Mensura. Yet Aristotle is claimed as its advocate on the strength of the following passage from his De Anima[1]; 'let us say again that *the soul is in a manner all existences* (τὰ ὄντα). For existences are either things perceived or things thought: and intellection is in a manner the intelligibles, and perception the things perceived. I say, in a manner; and in what manner, we must enquire.' This enquiry establishes the following distinction: that in the case of the senses, the perceived object itself is not in the mind (e.g. a stone), but its form (τὸ εἶδος) is, and with *this*, not with the *matter*, the percipient is for the moment identified; whilst, in the case of the intellect, the things thought, having no matter but only εἶδος, are unconditionally identical with the thinking intelligence. Now, when a philosopher identifies subject and object in this way, he may do it in either of two opposite interests: to secure the subject in his possession of the object in its reality: or to expose the object to all the contingencies of the subject in his limits of cognition. Mr. Grote assumes[2] that Aristotle speaks here in the latter sense: and appends the comment, 'This is in other words the Protagorean doctrine, that the mind is the measure of all existences; and that this is even more true about νοητά than about αἰσθητά. That doctrine is completely independent of the theory that ἐπιστήμη is αἴσθησις.' But that Aristotle speaks here in the former and opposite sense is rendered certain by his own profession of faith in the Metaphysics: his 'measure' or regulative term is not the internal and personal, but the τὰ ὄντα: these, in the case of objects of scientific thought (ἐπιστητά), he declares to be identical with the cognitive ψυχή, so that the *ipsissima cognita* are there and no mistake; while in the case of sensible perception they

[1] III. viii. 1. [2] Grote's Plato, Theæt. vol. ii. p. 342, note.

are not identical in their entirety with the percipient ψυχή, but are in part related to it as matter to form. This difference, of unconditional and of partial and secondary identity, is in favour of the νοητά as compared with the αἰσθητά, instead of placing them, as Mr. Grote does, in the lower rank of security. With Protagoras, on the other hand, the ψυχή,—and *that* without ἐπιστήμη at all,—is the regulative term or measure of τὰ ὄντα. If these doctrines are the same, there is no difference between Realism and Idealism. The historian's prepossession has apparently led him to an unconscious but total inversion of Aristotle's meaning.

Whether the attempt of the ancient Realist philosophers to rescue from Relativity some portion of our knowledge was successful is quite another question. As all cognition is the apprehension of an object by a mind, it seems self-evident that the apprehension cannot pretend to independence of the limits of that mind: that it will go only so far as the mind is susceptible of being affected by the object: that beyond this, the object will be blank to the subject: that the proportion between the luminous and the blank phases will be indeterminable: and that, even if the apprehension should be exhaustive, and leave no possibility of further affection of some other sort of faculty by the object, this fact will be unascertainable. These propositions are not only true, but truisms; and when they are advanced as imposing humbling restrictions upon the range of our understanding, we may best estimate them by asking, What is the sort of knowledge which they shut out from hope? Do they disappoint us of any conceivable possibility of light, and warn us from the attempt to reach it? The answer perhaps will be, 'They banish you from cognition of the absolute.' But what does this mean, except that with what is to remain out of relation I cannot enter into relation? And that if I enter into relation to it, it also will stand in relation to me? Since, in wishing to know it, this is just what I wanted, it does not disturb me in the least to be

informed of my fate; any more than to be told that I cannot visit a friend without putting an end to his solitude. To speak of 'knowing' 'things in themselves' or 'things as they are,' is to talk of not simply an impossibility, but a contradiction; for these phrases are invented to denote what is in the sphere of *being* and *not in the sphere of thought*; and to suppose them 'known' is *ipso facto* to take away this character. The relativity of cognition imposes upon us no forfeiture of privilege, no humiliation of pride: there is not any conceivable form of apprehension from which it excludes us. The intellectual relations into which different natures may enter with a given object may be more or fewer; and the remembrance of the paucity open to us and the numbers that may be out of our reach though within the range of richer capacities, is fitted to adapt our temper to our place: but to dispense with all intellectual relations in the act of intellection can be no object of ambition to any waking man: the very statement is like one of the senseless knots of some nightmare dream.

Not only is no mortifying restriction put upon us by this law; it further fails to make good the doctrine that 'Man is the measure of things.' This doctrine means, that things are to us only what we can discern of them; and they may very possibly have qualities which speak to no organs of ours, and to which we turn a blind side. Our range is therefore the range of our world. But it is equally true, that our mind is addressed by things only so far as they have resources for speaking to it; and that it may very possibly have capacities which there is nothing in nature to reach, and which lie dormant for want of the possible but absent objects they are fitted to cognise. In this converse case, '*things* are the measure of Man;' that part of him only waking into conscious knowledge to which they can bring their appeal. Each of these suppositions, of something unknown in nature and something unknowing in us, from want in either case of the complementary term, is alike compatible with the law of relativity: the first alone gives

the rule *ἄνθρωπος = μέτρον τῶν ὄντων*; the second, *τὰ ὄντα = μέτρον τοῦ ἀνθρώπου.*

It should moreover be observed that, whatever efficacy the law of relativity may be supposed to have as a caution against an illusory pretence of knowledge must, in its application, tell impartially on the whole field claimed by the human intellect. It subjects our sensible apprehensions to precisely the same insecurity as our postulates of thought; so that our readings of phenomena have not the least advantage over our underlying ontological beliefs. It is commonly assumed that only metaphysical and theological entities are affected by this law; and that while it dispatches them into the limbo of vanity, it instals the Scientific conceptions in possession of the field which they vacate: accordingly, its praises are celebrated in a tone of triumph by the writers who resolve the all of things into successions and clusters of change. This assumption is however absolutely baseless. If I am at the mercy of my own intellectual constitution when I trust my idea of *Space*, of *Substance* or of *Cause*, and of my moral constitution when I accept the reality of *Obligation*, I am no less at the mercy of my percipient constitution when I register as facts *the forms*, *the weights*, *the features*, *the movements* of the physical world. It will perhaps be said that the cases are not parallel, because in the former instance we make pretensions to the knowledge of something Absolute, while in the latter we avowedly deal only with sensations of our own, where we are at home and can make no mistake. Neither part of this statement however will bear examination. In working my problems of speculation by help of the ideas of Space, Cause, Substance, etc., I certainly commit myself in either instance to a *Noumenon*, i.e. to something given me or postulated by me through a law or necessity of *Thought alone*, to an *Ens rationis*, for which I can offer no other guarantee than that it is the condition of my thinking at all. But I do not affect any other cognizance of such Noumenon than this inner constitution of my faculties affords; I know

it only so far as it is presupposed, and in that presupposition revealed, by my intellect: it is precisely *in virtue of this its relation to* my Reason that I take it with unquestioning trust; and could anyone eject it from this relation and turn it out into the desert of 'the Absolute,' it would cease to be anything to me. It is surprising that so many writers, among them Mr. J. S. Mill, should fall into the error of treating a '*Noumenon*' as interchangeable with the 'Absolute.' The distinction between them is perfectly plain: the latter term marks the object as existing *out of all relation*; the former marks the *faculty of ours in relation to which, if existing, it stands*. A *noumenon* is an object of the understanding only, opposed to *phenomenon*, as an object of sensible perception: the existence of the noumenal thing,—*a fortiori* its absolute existence,—the name in no way affirms; and it is competent to one who construes his ideas of *causality*, *substance*, etc., as noumena, and who believes that they stand *for realities*, yet to treat them as subject to the law of relativity, and to say that *Substance* we know only as the ground of attributes, and *Cause* only as the source of phenomena. But this relativity, which a noumenon may retain, '*the Absolute*' discards; and the mere disproof of its ability to stand thus alone has no effect on the more modest pretensions of its companion. If the 'Absolute' were cognizable, it could only be through revelation of the Reason, and it would be a noumenon; but we must not convert the proposition, and identify every noumenon with an absolute. In truth, noumena are the intellectual conditions of apprehending their related phenomena, as phenomena are conditions of thinking their related noumena; and the claims of the two to be reckoned *as known* are perfectly reciprocal: they arise from the mutual play of faculties whose concerted action gives all our knowledge; and to discredit either at the expense of the other,—to say that we know nothing of causality but something about effects, nothing of substance but a good deal about attributes, etc., is to contradict the very relativity which is the plea for the assertion,

and set up the absolute once more, only standing on its head.

It is quite true then that a given object can report itself to a knowing subject only so far as its modes of being are in relation to his modes of cognition; and that even if all its possible modes found in him some responding apprehension, his knowledge would still be the result of two factors, and would be of the object, not in its absolute existence, but as affecting him. As this however is what constitutes knowledge, and not what contradicts it, it gives no ground for distrust, either of our faculties as a system, or of any one as against another of the powers which all come under the same rule. It does not follow that we know no entities, because we can know them only in their relation to us.

We have hitherto construed the 'relativity of knowledge' as denoting the interaction of the object and the mind. But, in order to know, the object must not only be *en rapport* with us; it must further *be seen in relation* to something else. To know a thing's *place*, we must apprehend it *as in space*, and as measuring so and so in its distance from some standard points. To know an event's *time*, we must hold it in thought between a before and an after. To know a flower by its scent, we must remember a prior experience of it, and discriminate it from other appeals to the same sense. I cannot know myself, but as antithetic to the outer world, or the outer world but as other than myself. All knowledge consists in *distinguishing*, *defining*, marking off this from that; so that intelligence always takes at least two things together into its ken, and even an object that looks most like an island in thought, must at all events have an ocean round it. Here we have a relation lying wholly in the objective field; and it is no less involved than the former one in every act of cognition. It is to this fact of external comparison that Dr. Bain applies the name '*the Law of relativity*.' It is perhaps but an extension of the rule already noticed;

for the differentiation of object from object is but the result of our self-differentiation from each,—the effect upon ourselves of the one and of the other being the measure of their contrast: the single comparison with ourselves telling us *that a thing is*: the double comparison telling us *what it is*. It becomes *my object*, i. e. is cognised by me as existing, in presenting itself as different from me: it becomes *this object*, i. e. is cognised by me as such and such, in presenting itself as different from something other than myself. Both cases therefore exemplify the principle that knowledge goes by differencing, and intrinsically carries relation in it; and furnish not so much two distinct meanings of the phrase 'relativity of knowledge,' as two steps, one more elementary than the other, in the working of the same law. In this second form, as in the first, the rule denies to us all cognizance of the 'Absolute'; but not of 'Noumena,' so far forth as they may be related to us.

§ 2. '*All we know is phenomena.*'

But there is another way of presenting the same sceptical doctrine, specially intended to deprive us of such conditional access to entities as I have reserved. It is said that '*All we know is phenomena*'; and since the entities still left open to possible apprehension are all *noumena*, this proposition, if true, at once abolishes their claim. In order to test the maxim, we must ask what is a '*phenomenon*'; and in what consists its contrariety to a noumenon? Kant would say, in his distinctive language, that the former is an object of *Sense*, the latter of *Understanding*. He would add, that nothing can be *an object* given us to know except that which is presentable to 'the mind's eye,' that at which we can *look* in perception or imagination; and since we have no such *Anschauung* except of what is given to *Sense*, our noumena are not *objects* of thought, but *ways of thinking*, and must be kept off our list of things known. This account however is liable to

serious objections. (1) Even if we adopt the test of objective presentability (Anschauung), you can no more satisfy this condition with the data of Sense apart from those of Thought, than with the data of Thought apart from those of Sense. A thing which is perceived or imagined by me, and on which I direct an apprehensive attention, is not a mere mess of my own sensations as felt, but is *judged* to be other than myself, to be in Space, and, if it has newly turned up, to have issued from an adequate power. These are all of them, according to general admission, and the last according to Kant's own psychology, additions of the understanding to the contributions of sense; and the Anschauung is the joint product of both faculties and arises only by their concurrence; and whether you withdraw the intellectual element or the sensible, you equally destroy your represented object of cognition. That a noumenon cannot be *viewed* by itself is therefore no adequate ground for discharging it from our knowledge. (2) We cannot adopt Kant's very wide use of the word *Sense*; to include not only (under the name of *outer sense*) Perception with the intuition of Space, but also (under the name of *inner sense*) self-consciousness, with the intuition of Time. The fact that we can *picture* to ourselves space and time, and that they are the condition of all other pictures, determined him to this arrangement, which aimed to keep the picturing and the thinking faculties separate from each other. But since we also *judge* about space and time,—e. g. they are infinite, and judging is the function not of sense but of understanding, they cannot be withdrawn from the intuitive cognizance of the *intellect*, or with any propriety be transferred from the list of noumena to that of mere forms of sense. We want a name to include all cognitive functions or judgments of truth; and to hand over a number of them to 'Sense,' which is an attribute of creatures that *feel* and do not *understand*, is highly inconvenient. When once we are furnished with a comprehensive designation (be it Understanding or Reason) for the whole

field of judgment, it may be well to divide off, as Kant does, the provinces of *immediate* judgment by *Anschauung*, and of *mediate* judgment by *Begriff*; but this minor distinction is purchased at too great a price, by flinging its prior members altogether out of the intellectual back into the sensible realm.

If we limit the word *Sense* to the feelings given us by outward things, then, even though we should include the *perceptions* connected with them, we can no longer define 'phenomenon' as the object of sensible cognition, as noumenon is of intellectual; for we speak habitually of purely mental and moral phenomena, of reasoning, emotion, will, etc., known to us by inward self-consciousness alone. These in fact are the most exact type of the genus, because, being only internal, they protect us from the irrelevant image of *a Space* in which we are to look for what we want, and drive us upon the true definition, that a phenomenon is an *observed change*, i. e. a step *in Time* from one state to another,—a γίγνεσθαι, a Werden. It is not enough that *there be* a change: the altering colours, forms, etc., of a growing plant are not *phenomena* till they 'appear' before the eye that marks them: the sensations that make up the life of the mollusk or the chrysalis, though lifted into the sphere of feeling, are still short of the rank of phenomena, unless we suppose the creature able to notice them and refer them to itself, or the naturalist to do so on its behalf: besides the change, there must be a cognizance of it. *Phenomena*, therefore, not only may be known, but must be known, in order to earn their character at all. Further, but for phenomena, nothing could be known. For differentiation, as we have seen, is the essential condition of every cognitive act; and difference can be brought home to us only by change; either external, throwing us into first this state of feeling, then that; or internal, delivering our attention now upon this point, then upon that: to take away these vicissitudes would be to throw the world before us and the mind within us into eternal sleep, in which

neither communicated with the other. But from this proposition, that 'without phenomena we cannot know,' does it follow that, with phenomena, we can know nothing but themselves? Not so: in making us aware of the changes around and within us, they may, and they do, reveal to us something besides: viz. in every instance a *permanent* ground, the correlative of changes, without which they cannot be conceived, which is contained in their very meaning, and which has all the certainty belonging not simply to their actual occurrence, but to their possibility. The Westminster bell strikes five: it is impossible to count the sounds and notice their succession, or to remember them afterwards, without distributing them in a line upon an underlying duration which holds them, and of which they occupy a larger segment than the quicker strokes of my study clock announcing the same hour. We know the changes by their turning upon this permanent: we know the permanent by the changes that break its uniformity: one and the same intellectual act puts us in presence of both; and neither can have any cognitive title to the exclusion of the other. I see a balloon ascend and glide hither and thither as the air currents drift it: it is impossible to mark its course without referring it to the three dimensions of an all-embracing Space, whose existence and infinitude are interpreted to us by the phenomena of which it is the condition and the field. This Space is not one of the phenomena; for if they were abolished it would still be there, as it was before they came; yet by what right can you affirm that it is less known than they? I remember meeting a friend who told me of Professor Trendelenburg's last illness, and receiving next day by post the news of his death, and later in the week writing a letter consequent on the tidings: it is impossible for me to be aware of these incidents without referring them to my own personality as a constant, and being sure that I who now remember them am the same who experienced each, and who, as recipient of the earlier, have

been led to act and think in the later as permanent subject of them all. Do I then know the phenomena, and yet not know myself of whom they are phenomena? I am startled by a flash of lightning and its thunder clap: this surprise of eye and ear compels me to feel myself in presence of *a power* of which these are the signals: and otherwise than as *effects* it is impossible for me to conceive of them at all: the same act by which I apprehend them forbidding me to rest in them and carrying me behind them. Do I then know that they are there, and not know that they are *caused*? both cognitions have their credentials locked in the same casket and embodied in the same text; and what you cancel for the one you cannot save for the other. In all such instances it is a direct consequence of the *duality* of intellectual apprehension, that in knowing one thing you must know two: that in so far as one is a change, the other is a permanent; and that every disparagement of the latter as mentally invisible has no effect but to put the former into the dark. Noumena and phenomena are thus inseparable companions on the field of intelligence, and must live or die together, like the two cotyledons of one seed.

Is there then *no* ground for the statement, which almost every philosopher repeats, that all we know of matter is its qualities, and of mind its acts and states? There is thus much ground for it: we usually employ the word 'knowledge' of something which we consciously *get to know*, and of which we continue to learn more and more, embodying it as we proceed in fresh propositions organically united with what goes before. Such *process*, resulting in a growing system, arises only on the *phenomenal* side of our cognitive duality: the corresponding Noumenon accompanying it all along as an invariable condition. With the properties and changes of matter we are always extending our acquaintance, whole treatises being written on physical aspects of nature never suspected by the ancients: but the idea of matter as the substantive datum for these phenomena remains where it was. Similarly, the mind is to us, as it

was to Aristotle, *that in us* which thinks, feels, wills, etc., while the laws of its action have been followed out into new fields which give to our modern psychology a wider scope. The assumption of the Mind as the ground of these multiplying phenomena has remained stationary, but indispensable to their conception. This has given rise to the assertion that these substantive centres are the *unknown* subjects of *known* modifications: since we can say nothing about them except in language borrowed from attributes, and cannot make the thought of them fruitful in new truth. That this language however is not strictly correct is very obvious. That you can say *only one thing* about an object is very different from being able to say *nothing*: the unity and simplicity and unchangeableness of a cognition do not identify it with ignorance. And since to the correlative of *phenomena* this permanence must from its very function belong, and otherwise it would itself become phenomenal and demand its own permanent behind, any disparagement of its intellectual claims on this ground forgets the very conditions of human knowledge. A relation not altogether dissimilar exists between the definitions and the axioms of geometry. The former (including the *real* assumptions which they carry) are the genetic source of all the discoveries of ulterior properties which the subsequent reasonings elicit: the latter are wholly unproductive and might be pondered for ever without yielding a single glimpse of new truth; but they give the ever-present *rule* in conformity with which the forward movements must proceed: a rule that repeats itself again and again without change whenever the case for its application comes. Yet we treat the axioms as lying within our knowledge, and as types of its highest certainty.

It is worth remarking that on the use of language here noticed the scheme of Idealism really rests. It assumes that in every mental act the *cognitum* is that term on which *attention is directed and of which we think*: while the other is *our way of thinking it*, which is not looked at at all, and

cannot therefore, it is said, be an object of knowledge. The former is the phenomenon, the latter the noumenon. The former is attended to only as an affection of ourselves, and beyond these limits is not cognized: the latter is not attended to in any way, and therefore is not cognized. How then are we able to speak of it, and give it a name? Simply by afterwards reflecting upon the act of knowledge, and questioning it as to its contents: we then find out its two parts, and in tracing the process, what was before our unconscious way of thinking now becomes the object of our conscious thought. Is it not then at last our *cognitum*? and have we not made sure of our noumenon? Yes, it is answered; but only as a *phenomenon* of our mental history, and not as valid for realities beyond: so that we know no more than that we have this particular idea; but what it is good for we cannot tell. The only answer possible to this is a conditional admission of its truth and an unconditional rejection of its scepticism. If 'knowledge' is to be so defined as to include only the phenomenal or objective term, then of course noumena are unknown except as phenomena cognizable in our personality. They cannot at the same moment play the part of apprehensive act and apprehended thing, of condition and conditioned. But none the less shall I rest and move with assured certainty upon them; and if you will not let me say '*I know them*,' I will be content to say '*I trust them*.' That they are my given way of thinking is the best possible reason why I should listen to no proposals to think otherwise. It only therefore amounts to this; that the subjective postulates are accepted under one name, the objective data under another; but the difference between 'trust' in the one case and 'knowledge' in the other, marks no distinction of certainty; simply the outer and the inner side of one indivisible act of the intellect.

§ 3. *The Unknowable.*

One other mode of speech must be adverted to before we take leave of the maxim we are criticising. Mr. Herbert Spencer takes up a peculiar position in relation to it. He admits that it is impossible to present phenomena in thought or language without the assumption of entities to which they are related; especially without referring them to a Cause or Power whence they issue. Nay, our very conception of them as *Relative*, and relativity itself, involve, *ex vi termini*, the *Absolute* as a necessary cognition. He does not therefore question the reality of these noumena; our thought does not delude us in its report of their existence. But there its capacity stops. We know *that* the absolute power is; but not *what* it is. Is this a tenable distinction? Is it possible to have assurance of a real existence, which yet remains to the end an utter blank? Do we know the fact by a vacuum in thought, or by a thought itself? If the former, how can a subjective nothing tell us of an objective something? If the latter, how can there be a thought with nothing thinkable? By calling this existence a '*Power*,' surely Mr. Herbert Spencer removes it by one mark from the unknown; but, besides this, 'we are obliged,' he says, 'to regard that power as omnipresent,' as eternal, as one, as cause manifested in all phenomena;—a list of predicates, scanty indeed when measured by the requisites of religion, but too copious for the plea of Nescience. Wherever I can *distinguish*, there I *know*; and do I not distinguish this 'absolute' from all that is related to it, and thus get it, as counter term, into relative apprehension? Is it not, among noumena, different from Space, from Time, from Substance? If I can say all these things about it, it is no longer competent to me to designate it as the absolutely Unknowable. To know that an object *is*, yet know nothing that it *has*, is impossible, because contradictory. This negative Ontology therefore, which identifies 'the supreme reality' with total

vacuity, and makes the infinite in Being the zero in thought, cannot permanently poise itself in its precarious position: it must either repent of its concessions to realism (which it is too philosophical to do), and lapse into the Scientific commonplace 'all we know is phenomena;' or else advance, with what caution and reserve it pleases, into ulterior conceptions of the invisible cause, sufficient to soften the total eclipse into the penumbra of a sacred mystery. It is but natural that the pretensions of men to more knowledge than they can substantiate should lead to this reaction into imaginary ignorance: to eyes long dazzled by a blaze just quenched, the open twilight seems like a midnight black with clouds; but soon, under the solemn grey of evening, though the colours are gone, the forms emerge, and when the west also is pale and cold, the stars come out with brighter fires, and give the heavens their shape. Mr. Spencer's testimony against the purely phenomenal doctrine is of high value. The importance which he attaches to this characteristic of his, as relieving with a sense of reverence the hard self-confidence of special science or dogmatic materialism, is scarcely less so: for it betrays his appreciation of that outlook beyond the region of phenomena for the conditions of religion which cannot eventually be content to gaze into an abyss without reply. But men will not permanently be persuaded by him, that, while they may be sure there is more than phenomena, they cannot tell what else there is [1].

I have now examined the modern doctrine of nescience with regard to metaphysical truth, in the three forms which it assumes: viz. *the idealism* which limits our knowledge to the interior line of our own consciousness: the principle of *the relativity of knowledge*, which forbids us to suppose that what is true to us is true beyond us: and the maxim that '*all we know is phenomena*.' In no one of these instances

[1] I content myself with a brief treatment of this subject here, having already dealt with it more explicitly in an essay on Science, Nescience, and Faith, vol. i. of Essays, Philosophical and Theological, pp. 171 seqq.

have we found the attempts satisfactory to explain away, or render untrustworthy, the intuitive beliefs which are the concomitants and conditions of our phenomenal experience: i.e. the fact of their being noumena does not condemn them, but, on the contrary, leaves them entitled to the same reliance as the phenomena apprehended with them in one act of thought. Whether this or that particular conception comes under this general defence, or is the possibly spurious growth of an illusory experience, is a different question, which can only be dealt with as the case arises. I do not propose to give a complete table of the intuitions of the understanding; but to take up, one by one, those which have to do with the grounds of religion; and under each head to say what may be needful to vindicate their validity as elements of religious knowledge.

This final appeal to the intuitive witness borne by consciousness to the presence of a world beyond the contents of that consciousness it has become customary to brand with the name 'Dogmatism,' and to treat as superseded by the discoveries of the modern 'Criticism'; which affects to have found a back-door of entrance behind each intuition, and detected it, with lighted magic-lantern, flinging off the phantasmagoria of sham externalities, for the deception of the simple and the amusement of the wise. In this respect, a change has taken place in the canons of philosophical judgment which, to say the least, needs to be very carefully watched lest, like every oscillation, it only replaces one untenable position by another. With a few comments on these changes, I take leave of the subject of this Book.

Till past the middle of the last century the ultimate security of our knowledge was assumed to rest upon a few *given cognitions*, not preceding experience, but elicited by our first experience, and shaping it into a judgment. It was generally agreed that, if any judgments could be shown to be original and intuitive, their authority must be considered beyond question, and what they told us be held valid for the reality of things. Accordingly, if a philosopher

desired to weaken their authority, he proceeded,—like Locke and Hume,—to strip them of their *a priori* pretensions and reduce them to empirical rank; explaining them away into custom, association, prejudice, logical tradition, etc.;—in other words, into *accidents* of education and position, and dislodging them from their rights as *data* of our intellectual constitution. This is still the method most in favour with the English empirical school. Again and again its expositors return to certain obstinate knots or ganglia of thought,—duration, extension, causality, duty, etc., and try to resolve them by some new turn of strength or skill: so that all the most elaborate efforts of psychological analysis, from the time of Hobbes to that of Bain, have been expended upon these nuclei, to break them up. We have thus a virtual admission that, if a judgment is to be impeached, it must be shown to be fabricated by experience, and that, so long as it can hold its ground as intuitive, it is entitled to be believed. Here we have a healthy faith remaining in the veracious structure of the human mind; and a willingness (which however is far from being consistently maintained) to trust its verdict as conclusive, *provided* it can be really had;—a proviso needing stern enforcement, to prevent the too easy resort to 'intuition' which really *is* dogmatism. Since the time of Kant however, it is only in England and in France that the problem could be worked out upon these terms. For he broke the spell of *a priori* factors of thought by a new disenchantment: he maintained their existence, enumerated and classified them; but denied their metaphysical validity as reporters of real being; treating their *subjective* character as their condemnation for purposes of objective ontological knowledge. They are forms in which we are made to think, and into which we must cast what is given to us: they supply the law of our perceptive and intellectual life, and maintain it as a consistent and coherent system in itself; but that anything real corresponds with these forms, which lie in us and not in the world, we have not the

smallest reason to believe. But then, neither have we the smallest reason to *disbelieve*: and *that*, as has been shown in a previous chapter, is indispensable for the justification of metaphysical scepticism. To demand *a reason* for assent to a primary belief is to insist that it shall be not primary, but secondary: and the absence of this self-contradictory condition can disturb no rational mind with idealistic doubt. It is certainly impossible to show that our thinking functions are organised in right relations with the scene in which they feel and act: and if any one chooses to suppose that they are sources of mere illusion, he must be allowed to enjoy his humour. But the older presumption will still prevail, that what is inevitably thought is in accord with what really is; and that Intelligence is not the mere creator of a dream. Doubtless, it is a belief acted on without proof: and if to enter upon the thinking process with a *postulate* wrapped up in it be 'Dogmatism,' the imputation cannot be refuted. It holds good however of the Kantist no less than of the Realist: for whether you say that the subjective affirmation is, or is not, adequate security for the objective reality, you have to take your principle for granted. If, to verify the affirmative, I should have 'to jump off my own shadow,' to invalidate it, or critically choose between it and its negative, would demand the very same Mephistophilean agility. A 'Philosophy without Assumptions' must be a product outside the realm of thought, and inappreciable by human reason. Our only resource therefore is to avail ourselves of the empirical psychology to the limits of its honest analysis of acquired combinations; and, beyond these limits, to trust, as valid intuitions, the residual beliefs inherent in our mental constitution. This clue, at least, must serve me through the following enquiries.

BOOK II.

Theism.

Διαφέρει δ' οὐ σμικρὸν ἀμωσγέπως πιθανότητά τινα τοὺς λόγους ἡμῶν ἔχειν, ὡς θεοί τ' εἰσὶ καὶ ἀγαθοί, δίκην τιμῶντες διαφερόντως ἀνθρώπων· σχεδὸν γὰρ τοῦτο ἡμῖν ὑπὲρ ἁπάντων τῶν νόμων κάλλιστόν τε καὶ ἄριστον προοίμιον ἂν εἴη.—Plato, *Legg.* x. 887 b, c.

All religion resolves itself into a conscious relation, on our part, to a higher than we; and, on the part of the rational universe at large, to a higher than all, i. e. to a Mind supreme above the whole family of minds. The conditions of such supremacy are twofold. (1) *Dynamical*, consisting in the command of all methods needful for the accomplishment of contemplated ends. (2) *Moral*, consisting in the intrinsic ascendency of the highest ends, infallibly conceived and eternally pursued, as the springs of the divine Will. In treating of the former we have to do chiefly with the relation of God to *Nature*,—the sole theatre of any possible power that can be supposed to limit or dispense with His. In treating of the latter, we deal with his relation to *Man*, and in a secondary degree to the other sentient beings of our globe,—as the only sphere open to our observation in which Character can play a part, and a righteous government appear. These two fields really exhaust all that we can seek or really desire to know of things divine; for although to these two aspects, of God as *Cause*, and God as *Holy*, we might add a third, of God as *Judge*, in order to determine the question of a life reserved for us beyond death, yet this is evidently an integral portion of the moral problem

embraced in the second head; apart from which the phenomenon of death and its possible range of effects become mere topics of natural history, and pass altogether out of the special cognizance of religion. In discussing our moral relation to God, some indications can scarcely fail to present themselves, whether that relation is terminable or not, and, if it is, when and how it is to cease. I therefore propose to be content with the simple twofold division.

CHAPTER I.

God as Cause.

'Ο μὲν γὰρ [i.e. ὅδε ὁ κόσμος] κάλλιστος τῶν γεγονότων, ὁ δ' [i.e. ὁ ποιητὴς καὶ πατὴρ αὐτοῦ] ἄριστος τῶν αἰτίων.—Plato, *Tim.* 29 A.

§ 1. *Meaning of the Causal Relation.*

A. As judged by the observer of nature.

Though the idea of Causality has not only possessed, but closely engaged the human mind in every reflective age since the dawn of philosophical literature, it is impossible to read through many pages of any scientific book without noticing the variable forms which it assumes. Two fixed points only are to be remarked in it: it involves a *relation* between two terms, distinguished as *Cause* and *Effect*; and, of these two terms, the second must be *a phenomenon*, or change. The moment we pass beyond these limits, and seek to define the first term, we are surprised by its versatility of aspect; it appears at one time as a thing or object in space; at another, as a prior phenomenon; and again, as a definite force identical with neither. In assigning the cause of the daily tides, you may name the *Moon*, or the *rotation of the earth*, or the *gravitation* of the related masses. The growth of a plant may be referred to the seed, the soil, the air; or to the circulation of the sap; or to the chemical action of heat and light. The river Rhone may be traced to the great glacier that sends it forth; or to the winter fall and summer melting of its

snows; or to the heats from southern latitudes, especially from the African continent, which qualify the climate of Switzerland and are ever widening the green of the Alpine valleys.

How are we to reduce these variations, and secure to the first term of this relation the fixity of meaning which belongs to the second? Common usage cannot decide among them. Physical observation will not help us, for each adduced instance of the relation may be read in any of the several ways. There remains but one resource; not all the three meanings have got hold of the word together; there is among them an order of succession in which one has precedence, while the others are derivative; or each may pick out some partial feature of an *idée mère* to which they all belong. It is only by reference to the psychological birth and history of the notion of causality, that we can detect its essence, and account for its modifications. What we have to do with here is no object of the senses which can be submitted to microscope, telescope, or crucible, but a *thought*, determinable only as a function of the understanding. Our problem therefore is purely reflective; to find what we *primarily mean* by Cause, and how we gain and mould the dependent ideas. As there is some advantage in beginning from the negative side, and shutting out what we *do not mean*, we may first examine and limit the claims of the three interpretations already enumerated.

a. *Thing as Cause.*

If by '*thing*' we denote that which has definite position in space (*Da*seyn), the word belongs to whatever holds geometrical relations; and as these subsist wherever there are points, lines, surfaces, with their angles and enclosures, they would be present in a world where no motion was. In a scene thus dead, however partitioned by marking objects, no one can pretend to find a source of change: all that is true of its contents must remain as it is, no less

than the group of properties predicable of a parabola. It is not by being a *thing* that the moon is credited with the tides, but by being the supposed seat of an energy crossing the lunar orbit with dispatches to our seas. We inaccurately speak as if the effect were due to the object's mere externality, as *there*, instead of to an *activity* which is one of its phenomena. This misleading habit has left its traces upon the doctrines of even the most careful philosophers. Kant himself never wholly escaped it; and in his præ-critical period allowed it to shape some fundamental formulas of his thought. In the Latin trial-Essay which admitted him as Privat-docent into the philosophical faculty at Koenigsberg (1755, æt. 31), he lays down the following proposition, as demonstrable *a priori*: 'No change can take place in a substance except in so far as it is connected with others, and the reciprocal dependence of all determines their mutual change of condition'; and on the strength of this proposition he rests a refutation of idealism; inasmuch as the changes in the mind of which we are self-conscious could not, under the rule, arise without its connection with something other than itself, and are therefore indices of an external world related to it[1]. Far from allowing that in the series of mental states each term has its sufficient cause in its antecedent, so that the whole is a nexus of concatenated phenomena, he thus insists on referring the inward changes to the presence of outward things; and *that*, a presence not learned by sense, but inferred by a necessity of thought, in virtue of which the understanding, on noticing its own phenomena, assumes the existence of objects other than itself. At this time therefore it was the need of a cause that, in Kant's view, called up the belief we have in external objects: they were introduced to us by a category of the Understanding, not, as he afterwards taught, by the factors of Sense. It has been shown how Schopenhauer shapes the same deduction,

[1] Principiorum primorum cognitionis metaphysicae nova Dilucidatio, Prop. xii; Werke (Rosenkranz), B. i. pp. 36–39.

and derives externality from the causal law, in confutation of Kant's later doctrine[1]; and how Helmholtz, in like manner, trusts to the same natural bridge to bear us across from the successions of consciousness to synchronous realities[2]. If the external world were no more than our *hypothesis* for explaining our sensations, we might no doubt be said to *believe in it*, as we may believe in luminiferous undulations as the condition of vision; but our assent to it on these terms would little resemble the certainty we feel as to the direct objects of perception. It is no wonder therefore that the order of thought maintained by these writers, from Cause as a pre-supposition to outward things as an inference, is called in question and even reversed by recent critics. Thus Professor Strümpell insists that, in reference to external things and events, it is logically impossible for us ever to identify our idea with real things, or the nexus of our ideas with the real sequence of facts. The use of the idea of causality presupposes that not merely the *existences* there are, but the *phenomena* there are, are already *there*; and hence neither can be reached by inference, because always posited in the premisses. This pre-supposition is indispensable; and the idea of external existence and external change is interwoven with whatever view may be taken of causality[3]. Whether it is necessary to accept either of these opposite orders of relation for the ideas of cause and of externality, will be considered further on.

Though Kant's later doctrine of causality differed from the first by making both terms of the relation phenomenal, a curious vestige still remained of his Latin proposition in his refusal to part with the Noumenal *Ding-an-sich*, as the source of our sensible experiences. That he was unconscious of inconsistency in reserving this little corner of realism is due probably to the feeble tenure by which he held it, and the little use he made of it. But it is

[1] Supra, pp. 87–89. [2] Supra, pp. 91, 92.

[3] Der Causalitätsbegriff und sein metaphysischer Gebrauch in der Naturwissenschaft, von Ludwig Strümpel. Leipzig, 1871, pp. 14, 15.

certain that he never renounced it, and that its lingering presence with him helped him to disclaim the Idealism which his disciples and his critics alike saw to be involved in the fundamental principles of the critical philosophy. However blank of predicates the Ding-an-sich might be, so much at least might be certainly affirmed of it, that it is *no phenomenon*; and if it is demanded by the intellect in order to serve in the capacity of a Cause, the first term in the category is occupied, not by an antecedent phenomenon, but by an entity or thing. Thus, the older idea that something must *be* in order that anything should *come to be*, that a statical permanent is the indispensable base of a flash of transiency, refused to quit its hold upon him, though he had long declared the opposite doctrine incontrovertible.

The tendency to invest external things, as such, with causality was handed down from the metaphysics of an earlier age, and was rendered intense by the influence of Spinoza. His theory of Substance, Attributes, and Modes, exhibited the second term as evolved from the first, and the third from the second, and identified Substance with the Cause of all; not less of what eternally is and must be, such as the properties of space, figure, and number, than of what comes and goes in the form of successive objects and events. As the essences of all particular natural kinds have their *ratio sufficiens* in the essence of universal Nature, so might the properties of each kind be deduced from its essence by one who could read it. This relation of logical necessity being treated as identical with causality, it would follow that the definition of a right cone is cause of all that is true of its sectional curves, and that whatever we predicate of man is the effect of the self-assertion of his essence. In this way therefore each sort of 'thing' is made the cause of its own qualities; and, in order to enter upon this relation, has only *to be so and so*, without *doing* anything. 'The word *Substance*,' says Professor Laurie, 'is used to denote that non-sensible "somewhat" which, underlying the substrate crude matter or bundle of qualities, supports

them and lives in them; which is in fact the being of the sensible object; and, *as the being of it, is also the cause of it*, relatively to its qualities or phenomenal existence.' This use of the word 'Substance' identifies it at bottom with 'Cause'.[1]

It is obvious that this use of the Ding-an-sich as the source of its own expressions contradicts not only Kant's doctrine of phenomenal causation, but his original demand for a second thing, to account for an affection of the first. The difference is that here Cause and Effect lie within one substance, while before they required two; but both cases have the common feature that Cause is identified with 'Thing,' and is distinguished from Effect, as Being is from Change.

In no one of these various forms can we consent to accept of *entity* as synonymous with *cause*. To *be* is not to *do*; and however true the maxim *Operari sequitur esse*, where both *operari* and *esse* are, it is not true that *esse* necessarily entails *operari*, as we have already seen in the case of mathematical relations[2]. The sphere does not produce its own properties; or a substance make its own attributes; for neither is there, till the object exists. In instances like these, which we contemplate 'sub specie eternitatis,' it is easy to see that the *ratio essendi* is not causal, i. e. is not a *ratio fiendi*. We are more liable to illusion where our judgment is concerned with material objects of perception; because, being quite unconscious of all the processes through which they communicate with us, we fancy that they have only to be where they are, in order to be perceived there: the moon in the sky and the pair of eyes on the field beneath are sure to find each other out; and she straightway gets the credit, gratis, by merely existing in her place, of the observer's visual experience. It is not however by *being*, but by *shining*, that she affects him; and, in order to

[1] Metaphysica Nova et Vetusta, a return to Dualism, Part V. ch. i. pp. 98, 99.

[2] Supra, I. iii. 1. pp. 86, 87.

shine, looking one way at the sun, and another at him; and, from the former, receiving an undulatory message which she forthwith transmits to the latter, the thrill of which upon his retina completes at last the complex story. Here we have not a 'Substance,' calling up any event by a 'So let it be'; but successive links of change, of which the first is no less a phenomenon than the last. Except as the seat of change, or partner in a change, no 'thing' can ever play the part of Cause.

b. *Phenomenon as Cause.*

Is it then a sufficient correction to disregard the things, as such, and seek the cause in *another phenomenon*, so that the relation shall be between two homogeneous members of the same series, differing simply as constant prior from constant posterior? This, it is well known, is the doctrine of Hume, Brown, the Mills, and the empirical psychologists generally in England, of Kant in Germany, of Comte in France. They all reduce causality to a rule of time-succession traceable in the order of phenomena; a rule which our writers, with the exception of Brown, regard as gathered merely from inductive observation, and as having no further cogency than attaches to any wide generalisation; but which Kant treated as a form of thought inherent in the understanding, and applied by it to the materials of sensible experience. This theory may be presented thus: In themselves, the perceptions of Sense, and the rules or categories of the Understanding, lie entirely apart, without interpenetration; Sensation being silent, for instance, of Causality; and Causality presenting no picture to the imagination. But there is an intermediate which enables them to meet; viz. *Time*; for, on the one hand, it is the form of our inner sense (i.e. self-consciousness), in virtue of which we represent our own inner states to ourselves as *successive*; and, on the other, is involved in the intellectual conception, A is cause of B, B is effect of A, where our

thought necessarily takes A first and steps thence to B. Possessed of this key of sequence, the understanding can plant itself in the field of perception and make application of its rule. Not every succession, however, which there turns up will answer to its law; and to find where it will fit, a distinction must be drawn. There are some series of perceptions and imaginations which I can take in any order, direct, inverse, or mixed; as when I survey a house from roof to base, I could as well pass my eye from base to roof; and, in remembering Guido's picture of Aurora and the Hours, I can circulate among the figures at will, and dwell upon the horses and the clouds at whatever interval I choose. But there are other series, in the thread of my inward life, in which this freedom of movement is denied. I see, for instance, a boat pass down the stream; my perception of its position when appearing from above precedes my perception of the position to which it descends; and it is impossible, in the apprehension of this phenomenon, to invert the order. So, the vision of the lightning and the hearing of the thunder, the stroke of a sword and the flow of blood, present themselves in a definite order of perception, which defies inversion. In such cases, therefore, the subjective order of my perception, not being variable ad libitum, I must regard as imposed upon me by the objective nature of the phenomenon, and rendered determinate by a fixed rule. This is the feature which separates our inner experiences into two sections; and that in which the *order* of succession admits of no inversion is under Causality: the fact of fixed order is what we mean by Causality; and wherever there is a pair of presentations or representations offering themselves in this determinate sequence, the first is of the Cause, the second of the Effect[1].

Does this resolution of the causal relation into a mere

[1] Kritik der reinen Vernunft, I. ii. 1; Analogie der Erfahrung. 2; Rosenkranz, B. ii, pp. 162 seqq. Also Schopenhauer, Vierfache Wurzel, iv, § 23, p. 85.

stereotyped arrangement of our feelings and images in their consecution satisfy the meaning we attach to the language of this relation? I think not, even though we look no further than the current use of its terms in natural science, where they bear only a curtailed and derivative sense. The element of Time is certainly not wholly without rights in the problem of Causation; but, to say the least, it occupies there not the essential but a very subordinate place. If we admit priority as predicable of a cause, still it is not this priority that makes it a cause. Into the logical connection between the terms of this relation, as construed by the understanding, Time does not enter; that it forces its way into our mode of picturing it to the imagination is due to the necessity we are under of taking our ideas in succession, even though they should represent phenomena that are synchronous in objective things. In its scientific use, the causal law declares, not that one phenomenon regularly *follows upon another*, but that a change in one thing is conditional on the behaviour of such others as stand related to it, so that if they retain the same attitude it will persist in its state. But this conditionality does not imply any difference of date between the coupled phenomena. The altered distance of the earth from the sun in approaching the perihelion does not *precede* its acceleration; the two changes, of shortened radius vector and of increased velocity, are absolutely simultaneous. The growing phases of the moon accompany, and do not follow, her habitual flight from conjunction to opposition with the sun. If the colour of an object depends on the shape of its superficial molecules, a change of colour could not fail to be synchronous with a change of shape. Hence the maxim of the medieval philosophy, 'Cessante causâ, cessat effectus,'—a maxim which, on the 'antecedent and consequent' principle, will have to be replaced by Cessante causâ, *incipit* effectus. We should thus be involved in the following absurdity: In a certain time a change takes place in the *agent*-object, without any change

in the condition of the *patient*; in the next section of time, when the change in the agent no longer exists, there arises a change in the patient. Such succession implies that, when there is something to cause, there is no effect; when there is nothing to cause, the effect turns up. Kant himself could not pass this incongruity without some slight, though inadequate notice; for he says, 'The greater part of the acting causes in nature are simultaneous with their effects; the sequence of which arises only from the fact that the cause cannot accomplish the whole effect in a moment. But in the moment of the initiation it always coexists simultaneously with the causality of its cause[1].' Must we not add, 'not in the moment of its initiation only, but in the moment of its cessation, it keeps time punctually with its fleeting and vanishing cause'? Does the increment of velocity due to a given decrement of the earth's solar distance *wait* till the figure is lower by even the smallest decimal before it is realised? or is it not paid off and expressed in mathematical tables with absolute exactitude? If indeed the 'effect' on which you fix attention is separated from the 'cause' to which you assign it by a series of intermediate links of change, time may be needed for the delivery of the final result; and this is the case wherever interposed media, solid or fluid, have to be stirred to molecular movement, and to transmit vibrations to a far-off goal. Thus, swift as are the undulations of light, a new phase of the moon would earlier reach an eye nearer to it by a thousand miles than it reaches ours; and from the flash of a distant gun we have to wait longer for the report, the further we go from the battery. But in such instances it is incorrect and arbitrary to fix ad libitum upon any remote term in a series as the effect of which the initial term is to be taken as the cause; to treat the two extremes as a simple example of the applied category, and to merge all the intermediates, as if they were not there. Instead of two phenomena in the sense required, i. e.

[1] Kritik der reinen Vernunft, ibid., p. 172.

changes reduced to their lowest terms, there are millions in each of these cases, every one efficient and every one effect, sometimes with additive and sometimes with subtractive value, relatively to each other, and to the complex result. If I am asked to account for the time spent by a long chain of causes and their effects, when every two, being a simultaneous pair, require no time in which the one is to follow the other; if I am pressed by the dilemma, that, consecution being denied to this relation, either all phenomena must be simultaneous, or else the sum of any number of simultaneities must constitute time; my answer is, that though no interval is admitted between the cause and the effect, these phenomena themselves take a little time to enter and depart, and supply one of the infinitesimal quantities, the aggregate of which measures the whole life of Nature. Inconceivably fleet as the shifting of a molecule is from the crest to the hollow of a luminiferous wave, of such elements are made up the myriad years traversed by a ray now reaching my eye from the fixed star on which my telescope is turned. Simultaneity does not exclude duration.

On the assumption that 'prior and posterior' are the essence of the causal relation, there must be a clear boundary between the successive terms, if they are to be saved from confusion. But it is no more possible to discover a *unit of phenomenon* than it is to fix on a minimum of space, or time, or motion. Shall we say that vibration No. 1 of an elastic fluid is a complete phenomenon, and cause of No. 2, as next? or shall we let them all run on as a single fact, till, by impinging on a heterogeneous surface, they vary the form of motory change, and seem better to merit a new name? We *do* usually wait for this kind of unlikeness, before counting a second phenomenon; but it is an arbitrary distinction, from mere subjective impression, unsupported by any objective ætiological change; the prior molecular movements are just as much cause of the posterior within the same homogeneous medium as between

that elastic fluid and the neighbouring substance, for instance the nervous structure, at its edge. The phenomenal tracks are not put together of welded links, but are continuous lines, which you indeed may divide by the points of your logic and take piecemeal by the stops of your attention, but which flow on without noticing your marks, as Time slides forward whether there be clocks or not.

For purposes of inductive research, it is immaterial, as Mr. Mill observes, whether cause and effect are successive or synchronous; since in either case we must seek the essential conditions of the effect in the same way, viz. by isolating those with which it never dispenses, and which it never deserts. It is enough that it appears constantly in their company, and matters not whether it enters on even line with them, or a hair's breadth before. True as this is, it hardly justifies Mr. Mill's treatment of the question as indifferent; the investigator of outward nature and the student of the ultimate categories of thought being intent upon different ends. The former gains all that he wants, if he can but read the *order* of perceptible phenomena, and lay down the modes in which they group themselves in sets, or follow in sequence. This done, he can reckon on their ways of massing their battalions and marching over the field of Time; and in the standard 'antecedent' of each column he has the premonitory sign of what is next to come. And this power of interpretation and prediction, which fulfils the aim of Science, would be equally attained whether the component elements of this order were loose from each other, as mere regimented items of fact, or were determined to their place and held to their relations by bonds of interdependence of which their juxtaposition and sequence are only the marks. In other words, the inductive sciences have concern only with Laws of nature, and have nothing to ask and nothing to say about Causes at all; and they rightly frame their methods without regard to the ulterior questions raised by scrutiny of the very principles of thought. True, the chemist or the physiologist habitually

speaks of causation; for he no less has and uses the idea than any other rational man: but it goes with him into his science, instead of coming out of it: what he learns there adds nothing to it; but, on the contrary, often takes so much from it as to reduce it to a synonym of Law; to which then, by endowing it with *agency*, he wrongfully pays over what he has pilfered from the impoverished word. Causality, being the noumenal interpretation of empirical existence, cannot be learned from the rules of experience, but claims to carry its meaning into them; and whoever applies it merely to what they contain, eviscerates it, and leaves it in the chambers of the dead.

The inadequacy of the time-relation to explain and fill the causal is further evidenced by the numerous instances in which unbroken constancy of succession inspires us with no belief of causal relation between the members of the series. If I live by a dropping well, whose plash is regular as the beat of a pendulum, I do not attribute stroke B to the prior plunge of drop A. In the movement of a running animal, I do not regard the action of each leg as resulting from that of its predecessor in the series. Tide succeeds to tide, and day to night, and moment to moment, without our ever identifying their consecution with causation. Mr. J. S. Mill endeavours to relieve the difficulty presented in such cases by stipulating that the antecedent shall be not only *invariable*, but *unconditional*, i.e. that it shall be, or shall include, the sole requisite to the effect. This, he says, is not the case in the sequences adduced. If the head-springs were dried up, the drip of the well would cease: if the dog at full speed were struck with apoplexy, there would be a movement of a leg without successor: if the moon were abolished, there would be a last tide; and if the earth's rotation were stopped, the alternation of day and night would cease. To say nothing of the fact that this plea has no application to the consecutive moments of time, it is only a circuitous way of escaping from the whole doctrine of phenomenal order, and of acknowledging that

there are 'conditions' of causation which you must secure, beyond the most constant of observed priorities; upon the evidence of time-relations alone, however perfect, you cannot make sure of having caught your cause; you may yet be baulked by failure of *life*, or of *gravitation*, which without being antecedent phenomena are yet indispensable conditions[1]. Besides, mankind have never, in their utmost ignorance, before the time of Copernicus and of the lunar theory of the tides, been disposed to regard ebb as the cause of flood, or night of day: the time-argument was perfect, the intercepting possibilities were unknown; yet they never mistook the links of custom for the bonds of causation. It is evident therefore that something else is necessary than order among phenomena, before the mind sets up the belief of cause and effect.

But suppose that we resolve the principle of causality into a rule of succession which cannot be inverted: it can not possibly rest there; for that rule itself, in virtue of which A goes before B, and never B before A, is a phenomenon, which can only be conceived as an effect, seeing that it stands in contrast with the other set of successive perceptions in which the order can be varied at will. But that which determines the order to be this and not that, cannot itself be a member of the series of which it disposes, and does not therefore fall under the time-definition of Cause; and over and above the invariable arrangement of phenomena in our thought, there must be a causality deriving that arrangement from something beyond.

If neither 'thing' nor 'prior phenomenon' can separately

[1] I am glad to strengthen this criticism by the following admirable sentences of Professor Laurie's: If by the word *conditioning* Mr. Mill 'means merely to signalise the true antecedent as opposed to many possible antecedents, or the crude antecedents of the vulgar, he manifestly gains nothing as regards causality. If, on the other hand, he means by the word *conditioning* that there is something more than true time-sequence, he is endeavouring illegitimately to foist in causality in the sense of effectuating power and necessary effect; and thus he either gives up the sensationalist position altogether, or confesses his failure to explain causality.' Metaphysica Nova et Vetusta, V. ii. 2, pp. 123, 124.

satisfy the meaning of *Cause*, is it possible perhaps to find it in the combination of the two? They may easily be brought together in the following case. Suppose there were in space a single body in uniform rectilinear motion. It would change its position on its path, first from A to B, then from B to C. Here are two consecutive facts in one given thing. Can we say that the thing's change of place from A to B was the *cause* of its change of place from B to C? Assuredly not. Yet here we have, on the one hand, the *substance* which is said to be 'identical with Cause'; and, on the other, the *time-relation* which is the rival claimant on the same term. If it be said that this is a case not of two phenomena, one after the other, but of a single phenomenon bisected, we shall have to ask for a definition of the unit of phenomenon; for it cannot be denied that every assumption of a new position by a body constitutes a change, or that the positions between B and C are other than the positions between A and B. The objection therefore can only mean that a more considerable change than one of place alone is required to warrant the application of our category; and that unless, in addition, the direction or the velocity of the motion be altered, we do not get the sort of second phenomenon which the causal principle contemplates. Here, it must be observed, we have a completely new stipulation, viz. that the antecedent and consequent *shall be not homogeneous*, but shall differ in other respects than in the date which rendered the order right. Not till the body quickens, slackens, or arrests its motion, or starts into a new direction, does the understanding ask an explanation; and then it answers its own question, it is said, by postulating the influence of some other body existing before but now under changed relations to the first. That the postulate may accomplish its purpose of satisfying the understanding, its terms must be still further narrowed; for not every change of relation between the two bodies will lay our question to rest. If it be in *distance* only, there is nothing in that idea which involves *a priori*

the modified direction or velocity for which we have to account: let the second body be inert and dead, and its existence at more or less interval seems to be indifferent to the first; and if *a posteriori* experience shows it to be *not* indifferent, it is because, instead of being inert, it is *operative*, charged with that which, under the name of *Force* or *Power*, the understanding supplies as the pre-supposition of every phenomenon. Have we then, in this idea, here at last the true essence of Causality? and shall we say that, while we miss it in *existence in space* (Dasein), or *succession in time* (antecedent and consequent), we find it in *action* or *energy*? This third meaning I proceed to test.

c. *Force as Cause.*

The presence of a *dynamical* idea in our affirmations of Causality is so obtrusive that the chief difficulty, for expositors of Hume's doctrine, is to find examples which even *seem* to throw the stress upon antecedence and to render efficiency a superfluous appendage. The blow of the steam-hammer which welds two masses of iron, the combustion of the furnace which runs the metal out of the ore, the rush of the torrent which buries a homestead in gravel, the gale which drives the ship upon the rocks, the summer warmth which decks the earth with foliage and flowers, are hardly reducible, even in the imagination of an empirical philosopher, to mere pioneers of the phenomena they announce. Their relation to what follows is that, not of prophecy, but of production: it is their '*effect*,' and they are its '*efficients*': they not only give notice of it, but do it: not only do it, but necessitate it. In order to find examples otherwise conceivable, we must select the two terms from widely separated regions, the one perhaps a phenomenon of the heavenly bodies, the other close at hand, while between them there is room for unknown intermediaries or partners which may complicate the facts. But even here, though our experience is confessedly of

nothing more than succession, so that it gives us a fair plea for a time-doctrine of causation, we prefer to import the idea of efficiency from the other class of cases, and to interpret the whole causal world by the dynamic rule, and believe that the changes happening in Saturn or in Sirius really work out the phenomena that answer to them here.

To this preponderance of the idea of Force over that of antecedence the habitual assumption is due of a *nexus naturæ* that ties together effect and cause, and turns two phenomena into the opposite surfaces of one. Without this, the second would be a new item of fact, with the first for its constant herald, proclaiming 'Here it *is*'; instead of an irresistible fate, announced by a 'So it *must be*.' That we cannot divest ourselves of this belief in a link between the two giving to the one *power* to present the other, is now seldom denied; but is explained as a mental illusion due merely to the invariably conjoined experience of the consecutive events; a subjective association is mistaken for an objective bond. Which order then gives the more reasonable account of our mode of thinking—that for us causation owes its 'necessity' to customary succession? or, that in itself it owes its customary succession to its necessity? In other words, Is our belief in causation identical with our belief in *Law*? or with belief in *Power*? or, to vary the expression once more, does it mean belief in the uniformity of nature? or in the derivative origin of phenomena? The reasons for preferring the latter explanation appear decisive. Order, Law, customary Sequence, can be found to exist, and be laid out on its lines only by experience. To say that nature is uniform is to say that each series of events repeats itself without variation, that what has filed past us once files past us again, if only the first term makes the start; and this is a matter of fact which observation only can report or can contradict. Whether the consecution of phenomena which we see agrees with that which we remember, i.e. whether the present repeats the past, cannot be known but by setting

our memory and our perception side by side: and we are certainly capable of noticing their concurrence or their discrepancy and of accepting accordingly the belief of order or the belief of disorder. If therefore we rest in the assurance of uniformity, it must be on the evidence of fact, prior to which our mind stands neutral, ready for regularity, ready also for variation. As every particular law of sequence, so the existence of any such law at all, must be empirically learned; and for our belief in the order of nature as it is it would be inexcusable to set up any special intuition. Nor does there seem to be any mystery in our habitual assumption that the past, so far as its laws have been deciphered, will, under like conditions, reproduce itself in the future. It is but an example of our only possible method of forming expectations: the familiar conjunction of things in our experience supplying the sources of suggestion for what has yet to be. Hume has unanswerably shown that no logical inference can carry us over from the past order to the future: all the predictions of Science take for granted, what cannot be proved, that the system of the world will remain what it has hitherto been; and the practical assurance with which we rest in this continuity, though the mere result of custom, we mistake for a necessity *in rerum naturâ*. A necessity thus arrived at through exposure to an unbroken order, would evidently operate only between the particular terms of that order, and would be co-extensive in its range with our empirical apprehension of the course of nature; and, like every other incomplete induction, would be open to correction from any supplementary experience which should sever the supposed links and throw the phenomena into new combinations. What we learn from experience, from experience we may unlearn; and if B, which we had regarded as the effect of A, surprises us by dispensing with this antecedent, we shall have no difficulty in looking out for another to which it may be credited. But, however long we might be baffled in our search, would it ever

occur to us that the event was not only without *this* cause, but without *any*? that the originating power which was not *here*, was *nowhere*? On the contrary, the very eagerness of curiosity which ensues on our surprise is but the pressure of the axiom of causation, reasserting the *derivative origin of all phenomena*: we know the missing *power* to be somewhere; but where is it then? Nay, more: were phenomena released, not only from this order or that order, but from all perceptible order, and turned from a regiment into a rabble, did they defy prediction, and startle us every instant like a flash of lightning or a shooting star, they would none the less be to us the expression of some power, and fall under Plato's maxim, *ἀναγκαῖον εἶναι πάντα τὰ γιγνόμενα διά τινα αἰτίαν γίγνεσθαι· πῶς γὰρ ἂν χωρὶς τούτων γίγνοιτο*[1]; Belief which would thus cleave to us alike in a chaos as in a kosmos, can be no induction from the observed uniformity of nature, but must be an *a priori* law of thought brought by us to the interpretation of the world.

If this be so, we must carefully distinguish between the *a posteriori* reliance on the 'uniformity of nature,' and the *a priori* belief that 'all phenomena are derivative.' If in both cases we put the question '*Whence* is it?' we mean, in the first, 'whence is *this particular* phenomenon, and what is the sign of its coming?' but in the other, 'whence is phenomenon itself, *quâ phenomenon*, at all?' in that capacity it is,—as genesis irrespective of its varieties,—that the understanding claims an account of it. Changes have only to *be change*, and the question is asked about them; and no answer is given till you go beyond the category of change, and instead of stepping from one member of it to another with endless beat, refer its whole contents, as such, to *that which is other than phenomenon*. 'Other than phenomenon' however is presentable in thought only under the form either of Being or of Power, of which the latter alone can *do* what is wanted and

[1] Plato, Philebus, 26 E.

supply the '*Operari* quod sequitur *Esse*.' In thus insisting that, in the causal intuition, it is *the phenomenal itself* which, as such, has to be referred to the *non-phenomenal*, I do not mean to deny the presence of the further question, 'Why does *this* phenomenon turn up rather than *that*?' On the contrary, we shall presently see that it is part of the express business of all causal investigations to clear up and determine such a preconceived alternative. But that preconception itself assumes the existence of a double, though disjunctive, possibility of change, i.e. the prior reality of a *power to change*, that will take advantage of the first open door. The problem thus presents two questions: Whence *any phenomenon at all* out of the bosom of eternal rest? and, Whence *this particular phenomenon* rather than any other that might have come instead? It is to the former of these that the idea of power gives the appropriate reply; while to the clearing of the latter it furnishes an indispensable prerequisite.

The distinction thus drawn relieves of their apparent contradiction the judgment of J. S. Mill that the 'law of universal causation' is an empirical induction open to correction, and that of Schopenhauer and Helmholtz that it is an intuitive and necessary postulate; for by 'law of causation' Mill means 'uniformity of nature,' the others mean 'the issue of phenomena by a power.' The former, in maintaining that we have no logical right to extend its application beyond the limits of our experience into outlying regions of the universe, means that we cannot be sure whether a given phenomenon there would be found to have the same constant antecedent that it has here[1]: the latter mean, that the phenomenon, in thus parting from its familiar antecedent, does not set up for itself and renounce its dependence upon a producing power, but must still be conceived as an *effect*: no difference in the empirical uniformities affecting in the least the conditionality of change upon a dynamical source. The absolute confidence

[1] System of Logic, B. III, ch. xxi, vol. ii, p. 104 (3rd ed.).

with which we must carry this assurance into every new field could never be reposed, Schopenhauer remarks, in any law which we had inductively learned: how could we then declare it *impossible* that we should meet with exceptions? Even the law of gravitation we can suppose to cease beyond the limits of space and time explored by us; but the presupposition of some substitute force remains unaffected by such possibilities of change[1]. Schopenhauer and Mill therefore agree in treating belief in 'the uniformity of nature' as inductively gained, and as having no necessary cogency beyond the limits of experience; but while Mill there takes leave of the very idea of causation, and finds himself in an imaginary medley of phenomena without it, Schopenhauer carries across the border the intuitive postulate of the power without which phenomena cannot be, and which lends to all specific causes the causality they exercise.

With direct reference to Mill's exposition, Helmholtz insists on the same evidence of a-priority in the causal belief; observing 'that the consequences deduced from the logical law do not concern our actual experience, but only its intellectual apprehension; and that on this account it can never be refuted by any possible experience. For if we anyhow go wrong in our application of the causal law, we infer from this, not that it is false, but only that we do not yet completely know the tissue of concurrent causes concerned in the phenomenon before us.' And however often baffled, we never raise the question, whether perhaps the changes we desire to explain are without cause. Nay, the law of causation, even when taken in Mill's own sense, of invariable connexion of consecutive phenomena, it is, in Helmholtz's opinion, beyond the resources of induction to render tolerably secure; as will appear from his comment on the following argument of Mill's:—

'Whatever has been found true in innumerable instances and never found to be false after due examination in any,

[1] Vierfache Wurzel, § 23, pp. 89, 90.

we are safe in acting on as universal provisionally, until an undoubted exception appears; provided the nature of the case be such that a real exception could scarcely have escaped our notice. When every phenomenon that we ever knew sufficiently well to be able to answer the question, had a cause on which it was invariably consequent, it was more rational to suppose that our inability to assign the causes of other phenomena arose from our ignorance, than that there were phenomena which were uncaused, and which happened to be exactly those which we had hitherto had no sufficient opportunity of studying[1].' Helmholtz observes, in reply, that the empirical proof of the law, thus universalized, cuts a very poor figure in the present state of scientific knowledge. 'For the number of cases in which we can suppose ourselves able fully to trace the causal connection of natural processes is trivial in comparison with the number of those in which we are still quite unable to do so. The former belong almost exclusively to inorganic nature, while as to the majority of the phenomena of organic nature we are in the dark. Indeed in the animals and man we are led, by the reports of our own consciousness, to assume quite positively a principle of Free Will for which we claim with decisive confidence an independence of the strict causal law, and, in spite of all theoretical speculation on the possible errors of this conviction, it is likely, I believe, to cling for ever to the natural consciousness. Precisely therefore in the best and most exactly known case of activity we regard ourselves as encountering an exception to that law. If then the causal law were a law of experience, the inductive proof of it would seem to be in a very bad way. At the most it would be about as valid as the meteorological rules and those of the rotation of the wind.' Unless therefore the law be accepted as a logical intuition, Helmholtz regards our inability to part with it on any imagined conditions, as irrational and inexplicable[2].

[1] System of Logic, ibid., p. 104. [2] Physiologische Optik, p. 454.

Another indication that we must leave room for the idea of power within the meaning of the word Cause is afforded by the impossibility of translating it and its subsidiary phrases into equivalent terms denoting simply co-existence and succession. The whole literature of Science is pervaded by language and conceptions strictly *Dynamical*; and if an Index Expurgatorius were drawn up, prohibiting all modes of speech that went beyond 'Laws of uniformity,' it would make a clean sweep of every treatise, physical or metaphysical, from the time of Thales to the present day, not excepting the very writers in the interest of whose doctrine the proscription was enforced. Comte, for instance, speaks of 'the mutual *action* of different solar systems,' of 'the *action* of the sun upon the planets': he says that 'the mathematical study of astronomical movements indispensably requires the conception of a *single force*': he speaks of 'the thermological *actions* of the system mutually destroying each other': and of 'a character special to the electrical *forces* which presents more difficulty than the molecular *gravitations*[1].' And Mr. Mill tells us that 'the contiguous influence of chemical action is not a powerful *force*': that 'electricity is now recognised as one of the most universal of natural *agencies*': he speaks of 'a *force* growing greater' and 'growing less': of 'the action of the central *force*': of 'the propagation of *influences* of all kinds': and distinguishes 'motions, *forces*, and other *influences*': and 'the motion with which the earth *tends to advance* in a direct line through space' he calls 'a Cause'.[2] Whence this perpetual resort to an idea which lies out beyond that simple 'order of phenomena' of which alone, it is said, we are competent to speak? Is it the mere equivalent of that order, and is the word 'Force' simply a more compendious symbol for language of succession which would be inconveniently circuitous? To this plea, which is presented by Comte and Mill, it is

[1] Phil. Pos., vol. ii. pp. 250, 254, 560, 708.
[2] System of Logic, i. pp. 489, 501; ii. 33, 34; i. 335, 352.

sufficient to answer, that Force admits of epithets which Time-order absolutely rejects: as possessing or disposing of it, a cause is called adequate or inadequate, an effect vast or slight: it carries gradations of intensity, greater, equal, less, while sequence either *is* or *is not*, and cannot be shaded off from maximum to minimum, so as to give us a *more Prior* or a *less Posterior*. True, an invisible antecedent, if a quantifiable phenomenon (e.g. a fainter or a brighter light), may, besides being prior in position, also be of higher degree, and so, without being 'more Prior,' be *prior to more*. But if the larger measure of the consequent is *due* to the corresponding tension of the antecedent, and is expressible in a constant ratio between them, then, in thus varying with each other, they stand in a relation not covered by their time-order, yet distinctly belonging to them as under the causal law. And the quantity which supplies the terms of this ratio is *Force*. On this susceptibility of dynamical gradation is founded Newton's third Law, that between two bodies, 'action and reaction are equal and in opposite directions'; and also the Rule that the amount of an effect is proportioned (or, as Leibniz would say, is equal[1]) to that of the cause;—two features selected by Schopenhauer as invariable characteristics of a cause[2]. Dr. Bain[3] is apparently conscious of the inconsistency in which the use of dynamical language involves the disciples of his school; for he says, 'To express causation we need only name one thing, the antecedent or cause, and another thing, the effect: a flying cannon shot is a cause, the tumbling down of a wall is the effect. But people sometimes allow themselves the use of the additional word "power" to complete as they suppose the statement: the cannon-ball in motion has the power to batter walls;—a pure expletive or pleonasm, whose tendency is

[1] Lettre à l'abbé Conti. Il y a toujours équation entre la cause pleine et l'effet entier.

[2] Die Freiheit des menschlichen Willens, p. 30, Frankfurt, 1841.

[3] Ment. and Mor. Sc., 1868, p. 406.

to create a mystical or fictitious agency, in addition to the real agent, the moving ball.' If the author of this criticism would try the effect of it upon the officers of the Royal Engineers, he would find, I believe, that the 'expletive' which he derides was not without a meaning to persons acquainted with cannon-balls, and that the 'mystical' element was actually reducible to figures and the object of innumerable problems far from being insoluble and still further from being 'fictitious.' To the 'antecedence' on which he insists as the one thing needful he would see that very little attention was paid; inasmuch as it is a feature which would equally belong to the shot whether it was of six pounds' weight or of six hundred, and whether it had a velocity of two hundred or of six hundred feet per second; and, on the other hand, the constituents of the 'force,'—the mass, the charge, the initial speed,—he would find measured with the utmost nicety. 'Merely to say "a cannon-ball and a battered wall"' (as an acute critic justly observes) 'is not to express causation. It is not enough to name the two things together; not even if we add that they occurred in succession, or in invariable succession, whatever that may mean; or in succession which we cannot conceive to be reversed. If one body moves into a space already occupied by another body, the second body must first move away. The succession here is invariable, if anything is, and its reversal cannot be conceived; yet there is not the slightest notion of causation. The first body does not move into the space because the second body moves out of it; though this moving out is the necessary antecedent to moving in. It is not naming two things together that is sufficient in any case. One of them must be named as an Agent; as indeed Dr. Bain himself seems to perceive. In other parts of his work we find this causal agency resolved into force, and force into tendency. Such a result is indeed inevitable[1].'

[1] On the meaning of the word 'Force,' by A. J. Mott, p. 43.

This remark brings us to the last and most modern device for explaining away dynamical language, and resolving it into the expression of Time-order. It is used, we are told, to denote '*Tendency to motion.*' We have seen how Mr. Mill speaks of 'the motion with which the earth *tends to advance* in a straight line through space' as being 'a cause.' Dr. Bain describes the planetary 'forces' as 'a tendency in a straight line through space, and a tendency to the sun as a centre,' and attributes to projectiles 'a common tendency of the nature of attraction to the earth's surface, or rather to the earth's centre[1].' What kind of phenomenon is this 'tendency'? and where does it stand in the 'order of co-existence' and the 'order of succession' which alone are open to our knowledge? If it is antecedent, what is its consequent? Shall we say, 'the motion which actually results'? then that motion issues from something other than a prior event, from a latent, imperceptible somewhat which, however evasively described by what it is *going to do*, is neither more nor less than the 'power' which you decline to acknowledge. Or shall we say, 'the consequent is perhaps no actual motion, but only that which *would ensue* under certain nameable conditions'? then, in this hypothetical event, you have still the belief of a phenomenon emerging, not from another phenomenon, but from some 'mystical' tension 'of the nature of attraction,' whose name you must not mention for fear of 'pleonasm,' yet whose presence you must secure under a disguise. '*Motion*' I know as a phenomenon; but 'tendency to motion' is no phenomenon, and, if cognizable at all as objectively there, carries my knowledge over the phenomenal edge into the region of power. Nothing is gained by construing it into *would-be-phenomena*; for *they*, as out of existence altogether and present only to the mind as conditional conceptions, cannot *be causes*, or serve you in the capacity of 'invariable antecedents' of actual phenomena. What can be more illusory than to ex-

[1] Ment. and Mor. Sc., p. 142.

plain the existent by the non-existent, events that *have been* by events that only conceivably *might have been*? Hypothetical phenomena are but a poor provision for moving a planet or even working a mill. The true character of this language of *tendency* discloses itself the moment we follow it up to its Aristotelian origin, or the Latin equivalent: the change which comes up on the field of time was said to exist *realiter*, while that which only might have come up was said to exist *potentialiter*; or, in the Greek antithesis, the former was present ἐνεργείᾳ, the latter δυνάμει; i. e. the permanent objective *power* was there, of which the conceived change is an effect; but, for want of some completing conditions for its exercise, might remain latent till an altered equilibrium opened a path for its operation. Thus, under the mask of tendency is hidden the reality of Force.

So repugnant however to some rigorous physicists is all resort to the idea of *Force*, that attempts are still made to remove it from the metaphysical base of mechanical science. In an ingenious Essay, written with this view by an anonymous Zürich Professor[1], conceptions are laid down, and a calculus established, which are intended to keep clear of the obnoxious term; the objections to which are so stated as to throw light, by their greater explicitness, on the criticism just quoted from Dr. Bain. 'By *Forces*,' the author says, 'turn and twist your explanation as you may, you understand something *mysterious*. The tendency pressing towards motion in a body of course admits of various degrees, and so far of being treated as a mathematical quantity. According to the doctrine of Physics, the tendency of a body to movement is induced by the action of other bodies; and it is on the position of these other bodies that in the particular case the amount of force is said to depend. Obscure as this conception of tendency to movement or of force is, it seems, in certain circumstances, as if it were an object of quite immediate perception, viz. as pres-

[1] Ursache und Wirkung. Ein Versuch. Cassel und Göttingen, 1867.

sure on the sense of touch.' This case the author illustrates by supposing a hand laid upon the table between a piece of iron which it supports and a powerful magnet vertically underneath the table; and he explains away the impression that the varying attraction of the magnet at different distances is actually perceived, by resolving the feeling into the effect of greater or less compression of the skin and the nerve-extremities: were the iron prevented from thus sinking into a lower position, the approach of the strongest magnet would be unfelt[1]. Apart from this feature of obscurity, 'the idea of Force, turn and twist it as we may, involves,' it is said, 'the thought that a body knows, as it were, *where* the other body is which attracts or repels it, since it directs a nisus thither or thence, if we proceed on the current idea of forces.' This 'strange idea' the author thinks to escape by falling back on Kant's first doctrine, that every effect is a change of condition in one body, and its cause a change in its relative position to other bodies. But he is obliged to acknowledge that here too 'an inconceivability remains,' viz. that a body has, as it were, a feeling of *how much* its relation changes to another with which it stands in reciprocity. 'This assumption however is,' he thinks, 'less of a stumbling-block than that of forces[2].' To me, I confess, a body which not only is conscious of relation to others, but carries a delicate thermometer of feeling to measure every change in it, is no less wonderful than a body which knows its way to another that attracts it[3].

[1] Ursache und Wirkung, pp. 15, 16. Of course the magnet does not attract human flesh. But if the hand, keeping its present sensitiveness, could be of iron, would the attraction be unfelt?

[2] Ibid., p. 27.

[3] The inadequacy of the conceptions of natural '*Law*' and of a '*World-order*,' as an ultimate account of the existing All, is well shown by Lotze. Such language is resorted to, in order to keep clear of any religious assumptions in dealing with a pure matter of science. 'But if we distinctly analyse what has to be thought, if these ideal phrases are to signify what they intend, can they help being thrown back upon what they would shun? How little possible is it, by resort to the notion of a natural *Law* of mere phenomena, to escape the assumption of reciprocal action of things, or to explain their apparent effects! Were it even clear

It is curious to find an author of our own day rediscovering in the idea of *Force* predicates of which, since Newton's time, it had been divested. Kepler, in expounding his law, that a planet's radius vector describes equal areas in equal times, assumed that the body in its orbit *must know it*, in order to keep true to its elliptic path and to the required velocity[1]. By giving his physical interpretation of this and the other two planetary laws, Newton dispensed with any inherent intelligence in the bodies themselves, and commissioned the material forces of the system to perform the guiding function instead; for the gravitating tendency of every particle to every other was regarded as a primary attribute of matter no less than extension or solidity: the editor (Cotes) of the second edition of the Principia expressly affirming[2] that attraction is as much an essential property of matter as impenetrability and extension; so that the orbitual curve, for instance, of Mars, and the varying velocity in it from the action of the central body, are just as demonstrably necessary as the equation of the ellipse itself. Among the continental physicists however there were always some who, in accepting Newton's discovery, yet looked on

what is to be understood by the *mandate* of a law, it would still be inconceivable how things or phenomena manage to *obey* it: only an essential unity of all existences could bring it to pass, that states of any one should be operative conditions of changes in another.' So with the '*World-order*.' 'Could it ever combine a plurality into the unity of any determinate relation or maintain it in this unity, if, in each member of the plurality, there were not both an immediate susceptibility to every state occurring in all the rest, and an ability, through the requisite change of position, to bring the mutual relations of them all into the intended form?' Mikrokosmus, 3er Band, pp. 562, 563; Zweite Aufl., 1872.

[1] Astronomia Nova *αἰτιολογητός*, seu Physica Cœlestis, tradita commentariis de motibus stellæ Martis, ex observationibus G. V. Tychonis Brahe, Pragæ, 1609, a Johanne Keplero. The Introduction, in describing the contents of this Treatise, says: 'Datum tamen fuit aliquid partibus III et IV etiam *Menti*, ut motor Planetæ proprius cum animali facultate movendi sui globi conjungat Rationem, si quis objectionibus nonnullis extrancis ad speciem validis territus, Naturæ corporum diffidere velit: modo talis aliquis hoc recipiat, mentem illam uti apparenti diametro Solis pro mensura librationis, sensumque habere angulorum quos exquirunt Astronomi.' (Last sentence but one.)

[2] Preface to second edition of Newton's Principia.

gravitation as a 'contingent law,' and refused to place it on the same footing as mathematical truths. D'Alembert, for instance, observes that 'this force may very well be a *primordial* force, a general principle of motion in nature, without on that account being an *essential* property of matter. In conceiving a body at all, we have to conceive it extended, impenetrable, divisible, and moveable; but we are not obliged to conceive of it as acting upon another. Gravitation, if it be what the thorough-going supporters of attraction conceive it to be, must have its cause in the will of a sovereign Being, who had ordained that bodies should act on one another at a distance as in contact[1].' Whoever takes this view finds himself, when at the end of the Principia, in possession of no *ultimate* truth, but only of an immense generalization of facts that might have been otherwise; and is impelled to continue his scientific search for a cause of the law with which he has been working. Hence, not a few foreign writers resented the *absolute* claims set up in England for the Newtonian physics, and treated 'the attraction of gravitation' as a provisional hypothesis, happy in its conception and application, but in its mystical character not unlike the 'occult qualities' which figure in medieval speculation. Its *actio in distans*, its variation by rule with change of distance, were more wonderful to the imagination than intelligible to the understanding; and it is hardly surprising that traces of a lingering disaffection remained till the authority of Laplace, and the growing efficiency of the doctrine in the hands of the French *physiciens*, left it in peaceable possession of its field. It is obvious however, from the example of the Zürich Professor, that the old misgivings are not dead, and are already stirring from their sleep. Whether they will ever be finally removed is perhaps doubtful; for the form of thought on which they bear stands upon the

[1] Essai sur les Éléments de Philosophie, ou sur les Principes des Connaissances humaines. Œuvres philosophiques, historiques et littéraires. Paris, 1805, 18 vols., vol. ii. p. 423.

very borders of the inconceivable. But this at least is certain, that the difficulty on which they insist they thus far fail to relieve. Our critic, while pluming himself on dispensing with the idea of Force, does but turn it out of one door to admit it by another, giving it only the opportunity of throwing a cloak over its tunic to hide its identity. Under change of phrase he stands in presence of the same thought. He will not hear of a body's *Force*; but prefers to say that the mass B *acts on* A so as to change its velocity, 'die Masse B für die Masse A wirklich—*wirksam*—ist[1]'; and describes the relation between them as *Wechselwirkung*. Surely the *Operari* thus designated involves *Kraft*; and when defined by specifying the *direction* of Wirkung with the plus or minus sign, carries the idea of attraction or repulsion; for a body which *wirkt* in another an accelerated motion towards itself attracts it, *or forces its approach*. The notion of *Power* cannot be served with a writ of ejectment from its lodgement in the word *Cause*.

The impossibility of dispensing with dynamical conceptions in describing the system of nature is plainly attested by the whole intellectual structure of the sciences as they now stand, and especially by the modern doctrine of the persistence and metamorphosis of forces, which links them all into a system. That this doctrine vastly facilitates the apprehension of relations among heterogeneous phenomena, and weaves an organic tissue to bind together separated provinces of the Cosmos, no one will deny; and this affords strong presumption that it brings us nearer than before to a true representation of the world as it is. But whatever magic there is in this doctrine is wrought entirely by the notion of power, as distinct from the representation of phenomena and their order, and as capable of freely migrating from one family of them to another, of passing through them from end to end of the world, and looking out at us from the face of all, whether in the dull gaze of mechanical weight and cohesion, or in the electric flash, or in the light of living

[1] Ursache und Wirkung, p. 30.

eyes. If this notion is an obtrusive illusion, a mistake of our subjective associations of ideas for a *nexus in rerum naturâ*, the greatest advance in science in our time is due to an empty fiction, and nature responds better to our fallacies than to our logical exactitude. Unless we are prepared to enforce this absurdity, we must believe that in following out the dynamical idea we are moving on the lines of nature.

There are philosophers who so far feel the cogency of these considerations as to admit the legitimacy of the dynamical conception and allow it ample place in the description of physical changes, yet are anxious to keep it entirely apart from the doctrine of causality. Schopenhauer especially takes up this position. He insists on the indispensable necessity of acknowledging permanent natural forces, all of them in the last resort phases of one and the same power, and manifesting themselves in the various groups of phenomena which make up the history of the cosmos. But the word *Cause* he denies to them, and limits to the phenomenal change which opens the way for them to speak in a given effect. Of two conditions which are essential to every event, viz. a constant power behind the field of time and on the watch, as it were, to enter where it can, and a transient change, which lets it in and gives it opportunity to do something, it is the latter alone, though it does not really do the thing, but merely, by a step aside, permit it to be done, which he honours with the name of Cause. In this sense, he says,[1] 'there are two things which remain unaffected by the endless chain of causes and effects whereof all changes are links, viz. on the one hand *Matter*, and on the other the original *Forces* of nature; the former, because it is the seat of all changes or that whereon they take place; the latter, because they are *that* in virtue of which changes or effects are possible at all, *that* which originally gives to causes their causality, i. e. the ability to produce effects, and from which therefore they only *borrow* this ability. Cause

[1] Vierfache Wurzel, p. 45.

and effect are the changes which are bound to necessary succession in time; the natural forces, on the other hand, in virtue of which all causes operate, are exempted from all change, hence in this sense out of the field of time, but on that very account continually and everywhere present, ubiquitous and inexhaustible, always ready to manifest themselves as soon as on a hint from causality the opportunity arises. The cause is always, like its effect, a single thing, a single change: the natural force on the other hand is universal, unchangeable, always and everywhere present. For instance, let the effect be, that a piece of amber attracts a light flake; its cause is the antecedent friction and the immediate approach of the amber; and the natural force which is active in this process and governs it is Electricity.' The 'two things' here mentioned as unaffected by the endless chain of causes and effects are identified in Schopenhauer's later and larger work; 'Matter' or 'Ding-an-sich' having no meaning for us except as the *Permanent* of Force[1]. But he still persists in reserving causality for the phenomenon which releases a force from its latent condition. He censures Kant for speaking of natural forces as efficient causes and saying that 'Gravity is a cause.' He pronounces it impossible to attain to clear thought so long as our interpretation fails to keep power and cause completely distinct. 'Matter and force,' he says, 'are the conditions of causality, which is the condition of everything else[2].'

Among metaphysicians who do not, with Hume, explain away the idea of Power, this exclusion of it from the word *Cause* Schopenhauer acknowledges to be new. The relation however between force and phenomenon on which it is founded is precisely that which Leibniz imported into the celebrated dispute respecting the proper measure of *vis viva*; when he contended that 'motion *per se* is merely relative and cannot determine its subject, but force is something real and absolute'; and that while the quantity of the

[1] Die Welt als Wille und Vorstellung, Buch II, §§ 22. 26.
[2] Ibid., Band II, p. 51.

former in the universe was variable, that of the latter was constant[1].

In estimating this proposed limitation of the word Cause, we must repeat the admission already made, that it suffices for simply scientific purposes, and gives a perfectly clear meaning to the language in which we speak of the observed relations of phenomena. It attaches to the word the very sense assigned to it by Brown and the Mills, or, I should rather say, applies it to exactly the same things. But then it leaves us in want of some further term to express the relation from which, by this restriction, the word is withdrawn; and here it is that Schopenhauer is at a disadvantage when compared with the English writers whose usage is like his own. With them, phenomenal causes, in the sense of constant antecedents, are everything, and tell the whole tale that has to be told; but with him there is a condition behind, and beyond the vocabulary which suffices for them he has still something else to express. He does not pretend to have got rid of power, and cannot, like our philosophers, be content to silence it and leave it dumb. If it is to have a language, the question will only be, whether it is to have a new word to itself, or to have share in the causal terms which are applied to premonitory phenomena. For determining this point we have but one reasonable rule: Let the word be new, if the idea be new; but if the thought be the same, only differently placed, let us mark this by keeping its old symbol with suitable qualification. On this principle, Schopenhauer himself shall judge for us the real rights of the case. How does he describe the relations between a phenomenon and its effect? The one, he says, is the *condition* of the other: and how, again, the relation between natural Force (say of electricity) and the phenomenon? The one, he says, is the *condition* of the other: so that we might apparently say, Force is to the phenomenon

[1] Lettre à Arnauld; and Réponse à l'abbé Conti.

what the phenomenon is to the effect. If then the latter ratio is correctly designated by the language of causality, how can the equivalent ratio fail to deserve it? Nay, the sameness of the thought is inadvertently confessed by our author in the terms which he employs for pronouncing sentence against it; for 'the natural force,' he tells us, it is which '*lends to the cause its causality*': can it lend what it has not got? It is '*that in virtue of which effects take place*': has it then no *efficiency*? Or can there be efficiency, that is, command over effects, without any *causal character*? the difference between the dynamical condition and the phenomenal antecedent obviously lies, not in the absence from the one and the presence in the other of the causal element; for Schopenhauer himself puts it into both, only, in the latter where he owns it, *borrows* it from the former where he ignores it; but in its permanence and universality in the one case, its transiency and localization in the other. This is no doubt a real and important difference; but it is a difference *within the sphere* of the causal idea, and requires to be marked by some epithet attached to the central word, and not by removal *in aliud genus*. Whatever word we employ for this purpose ought to pick out precisely the fact on which Schopenhauer insists, viz. that to *Power* the mind resorts for the Fountain-head and original fund of causality, of which the *antecedent phenomenon* is only the organ here and now to which it lends itself. Suppose then the two terms to be sharply discriminated by the presence of such a distinguishing mark, which of them must we select as the specific variety, and which reserve as the presupposed genus of cause? which is the more essential in the predicate of the maxim, 'Every phenomenon must be caused'? Is it the δύναμις? or is it the πρότερον? Plainly, the δύναμις; and the prior phenomenon to which we refer any effect accounts to us for nothing, except as a nidus or medium of the power which the understanding demands for every change. It is a favourite doctrine of Schopenhauer that all perception is

intellectual[1]. 'Without the understanding we could never attain to presentation, to perception, to apprehension of objects: we should get no further than mere sensation, which might certainly, as disagreeable or agreeable, have a value in relation to the whole, but would in other respects be a change from one meaningless condition to another and have no resemblance to a cognition. Presentation, i. e. cognition of an object, is not constituted but by the act of the understanding, in referring every impression received by the body to its Cause, in planting this off in the Space, pictured *a priori*, whence the effect proceeds, and in thus recognising the cause as operative, as real, that is as an idea of the same kind and class, as the body. This transition from effect to cause is an immediate, living, necessary act; a cognition of the pure understanding; not a reasoned inference, or combination of notions and judgments according to logical laws.' This is a statement, in another form, of the distinction, often emphasized, between sensation and perception; but by what law does our understanding spring forth upon the perceived object? Does it resort thither in order to catch *another phenomenon* than the felt affection of the body? Does it cry out for an '*antecedent*' to the sensation experienced? Has it the least inkling of an endless chain of changes whereof the present sensation is the last link, and of which it wants the predecessor? No; by the very terms of the exposition it looks for '*a cause*' or *operative power* to give the sensation: *that* is what it believes to be there, and what it plants out wherever it can find lodging. And be it in an object, or be it in a phenomenon, these are but the receptacles or depositories of causality: it is not *quâ* object, that is, as being in outward space, or *quâ* phenomenon, that is, as being in neighbouring time, that either of them avails. It is *quâ efficient* that either of them can satisfy the demands of the understanding. It is therefore evident that the intellectual intuition carries us not to a phenomenal order,

[1] Ueber das Sehen und die Farben (Frauenstädt, 1870), § 1, p. 7.

but to a permanent power; and that the causal idea, residing in the latter, the former carries with it on assuming the limits of space and time.

Power therefore, we conclude, is postulated by the understanding as the operative condition of *any and all* change; but to determine into existence *this* change rather than *that*, and rather than *none*, needs *a phenomenon*. As our main interest lies in this kind of alternative possibility, it is to determinative occurrences in time that we prevailingly apply the word *Cause*, giving it to them not in consideration of their serial *order*, but as Nature's vehicles of power on its passage through time. If ever *Things* are called causes, it is as affecting us by their properties; that is, as durable storehouses or custodians of power in space, not as simply *being* there, but as *acting* there. So that the dynamic idea clings to causality throughout, yet does not complete it. The supplementary condition must be sought in its phenomenal application. What exactly this supplementary condition imports which stamps it with preeminence will appear in the further course of our analysis.

B. As conditioned by Activity in the Ego.

All the interpretations of causality which I have thus far reviewed agree in one respect; they state the relation as they suppose it to be *given* to us, in the form either of Sense or of Understanding. They all find it in the experience of the 'empirical Ego,' and study its features in *objective* phenomena whether of the outer or of the inner world. They ask, 'What do Cause and Effect exhibit to us as *spectators* of the changes which we see or feel? In contemplating them, do we detect anything which *B* has to do with *A* except to follow it? Is there any rope or rivet between them by which one takes the other in tow?' When such questions are applied to the contents of our perceptive experience, they can receive no answer but that of Hume: between the approach of a magnet and the movement of a

needle, between the presence of the earth and the fall of a meteoric stone, there is nothing perceptible; the items of the compound fact are separately plain, but the *must* which supervenes and blends them is nowhere to be found. It is a fiction of our own, supplied, according to Hume, by custom and the clinging together of proximate impressions: according to Kant, by a law or category of the understanding which classifies for us the contents of sensible experience, and keeps apart under separate labels the constant and the variable series. In neither case is there anything objective in the relation; which exists only as a subjective construction, posterior or prior, put upon the materials thrown into consciousness.

In this common feature lies, I believe, the inadequacy of all the three accounts hitherto noticed. From a position of mere receptivity or of contemplative intelligence, in which we simply register what we observe, we could never attain to our idea of causality; for the essence of that idea is present neither in synchronous visual images nor in the procession of ideal trains marching past our inward gaze. Were the world a panorama and man an intellectual eye stationary before it, he would have no insight into this relation. Not till he throws himself into the field as Agent, can he find the problem and try to solve it. Its very rudiments spring from the activity of the Ego, and are absent from its receptivity; and its higher forms arise out of *processes* of that activity, demanding analysis and interpretation from reflecting intelligence. Where the idea of Cause is regarded as thus conditional on the subject's own activity, a new variety of doctrine presents itself, to which we may now turn. It has not indeed passed as yet beyond the limits of tentative expression; admitting especially two distinguishable aspects. Both of them lay their emphasis on the putting forth of spontaneous energy as the *conditio sine quâ non* of a possible idea of Cause. Both fix on the act of *percipiency* as the initial point at which that possibility enters on realization. But as this realization may

supposably be either a process compounded of analysable parts or logical stages building up the idea into several stories, or a moment of activity giving to the light a many-membered thought one in consciousness but multiform in its significance, one aspect of the theory presents the causal idea as *mediated*, and deriving its characteristics *dialectically* by a nameable logical procedure; while the other regards it as *immediate*, and though finding in it similar contents, does not wait for a dialectic to take them up, but evolves them at once, as integral to the living organism of the idea itself. As the happiest sample of the former, I select Professor Laurie's ingenious and original little book entitled 'Metaphysica Nova et Vetusta'[1]; the more so because I perceive, from his second title 'A Return to Dualism,' that I have the honour to stand beside him in the forlorn hope against which all the batteries of modern philosophy are concentrating their fire.

a. *In Mediated Perception.*

The evolution of the causal idea by Professor Laurie from the activity of the individual subject cannot be understood without some account of the preliminaries of that activity, with a view to conceive clearly the contents of the field on which it is introduced. For it is not every form of that activity, but only the latest, special to a rational nature, that provides a path to the required result: the stage of *Percipiency* must be reached, in order to complete the conditions of our category. Prior to this we cannot say that, in sentient beings, all is recipiency, and that no energy is directed from within outwards; but only that what centrifugal movement there is takes place under provocation from impressions delivered, and by way of reaction from them: hence it is essentially 'reflex' or 'passivo-active'; and implies that the subject is subordinated to the

[1] Williams and Norgate, 1884. Originally published anonymously, under the local disguise, by 'Scotus Novanticus' (of Wigton); but in a second edition with the author's name.

object, and tyrannised over by it. In the lower organisms the mere life-feeling administered by the elements around stimulates a nutritive and self-preserving responsive movement, without any breach of identity between subject and object, or other variation than the rising and sinking of the sensitive wave. In the higher quadrupeds, as the dog, a state is reached which may be called *Attuition*; marked by discrimination of particular objects from each other in space and recognition of them as the same after intervals of time, but without corresponding discrimination of them from the attuent subject; and, in the case of each object, by instinctive co-ordination of the particular sensations it gives, and unifying synthesis of them into a single thing, without consciousness of its sensible qualities as separate. In this stage there is a 'dim feeling of duality,' but the subject has no self-apprehension, and is still dependent on the object and dominated by it. There is indeed as yet no 'Self' to be apprehended, for its final factor is missing, and enters first with the life of man.

The 'presentate' image of an object which only wakes reaction as it falls on the canine receptivity, *he* meets with a 'spontaneous inner movement,' a pure activity which has its stimulus in and from itself, 'rebelling against the outer,' 'disencumbering itself of the load of what is not itself,' and eagerly co-ordinating the external data, be they things or be they phenomena. This energy is called *actus purus*, because, unlike the 'reflex,' it carries in it no 'impressions' that set it a-going, but is self-emergent, without given contents, and addresses itself to the antithetic outer phenomena in order to reduce them under its own law, or, as Professor Laurie says, 'subsume them under itself.' This feature it is,—this self-beginning of activity,—which we ought, it is added, to understand by 'freedom'; and this also it is which earns for it the name *Will*; so that to speak of 'Free-will' is a mere tautology. Will can be nothing else than 'free and autonomous[1].'

[1] First Part, ch. ii. The author's use of the word *subsume* (pp. 14,

This spontaneity of the subject declares itself first in the act of Percipience; which, to the former attuition of objects as distinct from each other, adds the antithesis of them and their sphere to the apprehending subject, and elevates that subject into a proper *Self*. It is an affirmation of a not-self containing all that is objective, and at the same time the correlative consciousness of the perceiving Ego as identical in the activity which it directs upon this, that, and every other object. Simple as the act appears of mentally saying 'I perceive a tree,' or 'a tree is there,' it implicitly contains, as a movement of thought, a number of stages which admit of explicit enumeration, and *that* only in one order which constitutes their law.

(1) Spontaneous initiation of movement.

(2) In going forth upon an object, *A*, *A* is what I would be at: it involves therefore 'End or purpose'; though 'concealed in the heart of the act.'

(3) *A* must be either this, or that, or other, of the contents of the not-self: that is, *any middle possibility is excluded.*

(4) *A* is not that or other: that is, the contradictory is excluded.

(5) *Therefore*; that is, *on Sufficient Reason*,

(6) *A is this*, that is, *A*: affirmation of *Being* or *Identity*.

(7) *A* is *there*, I am *here*; that is, it is so related to the unity of my consciousness.

(8) The Percept gained, fix it by calling it *A*; that is, secure its independence and distinctness by giving it a *name*.

These eight steps, implicit in percipience, constitute *Reason*; the percipient subject has become rational; and he alone *knows*.

20, and passim) to denote the subject's active seizure of a 'presentate' and setting it up '*as opposed to himself*,' is new to me. In logic the word denotes the act of referring a species to its genus by predicating the latter of the former. In this sense, 'to *subsume* objects under one's Self' would be to make one's Self a predicate of them, or include them among the contents of Self, which directly contradicts the author's intended meaning, of throwing them out *into the not-self*.

Such is 'the form of percipience,' when fully drawn out; and no percept can we gain without going through its successive steps[1]. Percepts are sometimes of things, sometimes of phenomena: both statical and dynamical facts therefore are under the law of this process and carry in them the contents and relations of its parts. What we apprehend in them and affirm about them is *mediated* by its logic, on the cogency of which the validity of the affirmation depends. Hence the percept, acquired in each of its essential predicates, by the Reason through its own logical act, is a '*Dialectic* percept,' won by force of inference, and not yielded by empirical analysis and abstraction. If therefore we want to know how we come to say this or that about whatever we perceive, we shall find the key to the problem somewhere in the foregoing 'form of percipience.' Our affirmation, for instance, of Being or Reality respecting any object or movement is nothing but No. 6, the conclusion of the dialectic procedure, *A is* this, viz. *A*, an assertion not of one or another *kind of existence*, but of *its existence and self-identity*. The Will's act of perception therefore is a predication of being and judgment of identity, declaring 'the object to be equal to itself[2].'

And so too it is with our affirmations of causality. Why do we say that all objects and phenomena are *caused*? Because our percepts of them as existing are *mediated* or conditioned. And why do we call cause and effect *antecedent and sequent*? Because in the mediate process the condition is the *prius* of the consequent. And why do

[1] Prof. Laurie however says, 'these eight facts of simple percipience are *not* separate acts historically and chronologically; they together constitute *one* act; the various moments which constitute that one act being by us logically discriminated, and that is all. Each involves the others; all are implicit in each.' P. 138. As the whole use which the author makes of these 'moments' hangs entirely upon their *order in series*, and this order is translated into time-priority and posteriority in nature, I can put no interpretation upon this statement compatible with the argument of the book. If the logical order has nothing to do with time-order, the argument collapses.

[2] First Part, ch. iii.

we predicate a causal *nexus of necessity*? Because in the 'form of percipience,' the logical links which bring out the percept lead to an inference *necessarily valid*. And why do we conceive of cause as dynamic and for the sake of effect? Because the Will in initiating percipience is purely 'kinetic,' and has 'purpose' concealed in it, and so is at once 'efficient and final cause.'

Thus both the *fact* of Being, or '*is*-ness' of each thing, and the real nature of Cause, are guaranteed to us by the free act of percipience and the mediating process which yields its affirmation. 'It is out of the thought-affirmation of being by the Ego in its free movement of percipience that the knowledge or perception of being springs[1].' Precisely as the universal predicate *being* is the issue of the act of percipience, so is mediation, cause, or ground the *prius* of that issue. Here, then, is 'cause, as sufficient reason, woven into the very form of the primal process of Reason, which is percipience, accompanying it in every act, and making its act possible[2].'

In concentrating attention upon the act of percipiency and clearing it from the sphere of sense-receptivity, Professor Laurie renders an important service to psychology, and seizes, I am persuaded, on the true nodus of both the doctrine of causation and of his larger problem. Confining myself as far as possible to the former, I refrain from discussing at any length the contents of his intermediate stage of Attuition; the more so, as it is a state short of any ascertainable human psychology, and is realised, if at all, only in the lower animals and the dumb beginnings of infancy, and therefore beyond the testing resources of our experience. It is in short an imaginary condition, conceivable only by subtracting and eliminating from our total inward life all that it gains through the spontaneity of 'Will' or 'Reason.' In the attempt at this subtraction I discover only my incompetence to render it at all exact. Between sense impressions arriving at us and energy going from us the

[1] P. 102. [2] P. 111.

distinction is clear; but when I am told that my receptivity, on being struck, *reacts* and starts a reflex movement, and am required to discriminate this from the spontaneous movement in presence of some sensible object, I am at a loss for a secure dividing mark between these two activities. It is in fact a contradiction in terms to attribute *action* to *receptivity*, and the contradiction is not removed by the prefix *re*: the activity which wakes up on the sensory appeal appears to me homogeneous with that which dispenses with the appeal and presents itself as original to the Ego; and even were they distinguishable, I could never feel sure that in the act of perception I had the latter alone, when my senses stood all the time exposed to the external thing which I am throwing off from myself. How I should feel therefore, if I were abandoned to the reflex portion of my activity, and reduced to the 'attuent' condition, I find it impossible to judge.

But within certain limits we may perhaps determine how we should *not* feel. A simply attuent creature, it is said, discriminates objects in space from one another, but not from himself; he is prevented by their differences from mistaking them for each other: he can appreciate their distances: their extension is a datum passively 'imposed on his receptivity of sense'; and their 'externality' follows as the reaction of the irritated sense; but their otherness to himself is still a secret from him. If I rightly understand this feature of attuition, it supposes one term of a pair of relatives to precede the existence of the other,—the *outward* to be in consciousness in the absence of any *inward*, and things to be dealt with as objects without determining the point 'objective *to what*'? If such a relational biped were possible at all, it would be but a wooden-legged affair, with one half alive and the other unconscious and dead. Nay, the alleged order in which it is to complete itself into the antithesis of self and not-self is inconceivable. How can a subject difference two objects from each other *before* either of them is differenced from

himself? Surely the difference between *A* and *B* is to him measured by their different mode of affecting himself.

No secure light then can be thrown on our human psychology by marking off from it the section supposed to be present also in our dogs and horses, and making comparative study of the remainder as so much distinct supplementary faculty; inasmuch as our physiological knowledge of the animals is not homogeneous with our reflective knowledge of ourselves, and there is no common measure of the two. Our nature must be interpreted by itself, and looked at as a completed whole; our resources for knowing which are found in analysis of its complex phenomena and the comparison of its stages of growth. And in learning the lessons thus open to us, it is a precarious thing to go behind the data of inchoate memory and speech, and spin conjectural autobiographies of babyhood which cannot be verified. We must start from Perception: it has no safe prefix, beyond the mere passive recipience of sensations; and the stress which Professor Laurie lays upon it, and the pertinacity with which he brings every question to it for ultimate appeal, are admirable features of his treatise. And what he gets from the act of percipience is no more, I believe, than is really there. But whether the way in which it is reached is truly presented admits of reasonable doubt. The author says:

'In entering this new sphere of consciousness, which new sphere is identified with perception, I find that I enter it enveloped in the forms of (1) end; (2) excluded middle; (3) contradiction; (4) sufficient reason; (5) being or identity (with its consequent affirmation). These forms (or laws of movement) are simply the explicit expression of the movement implicit in this new advance of consciousness,—this wholly inexplicable spontaneity, this *actus purus*, this Will which lies at the root of the whole[1].'

I would accept much on Professor Laurie's authority; and do not for a moment question the report he here

[1] P. 15,

gives of his experience. But if, on catching a percept and reckoning the worth of its contents, he really discovers this secret pocket-full of logical small change, I must confess to a comparatively empty purse, with all its value in a single coin,—viz. *the object*, all at once and all in one. I am astonished to hear of the five steps of reasoning which I have taken to the proposition 'That is the Sun': I am as unaware of them as a sleep-walker: they have never been in consciousness; and, if out of consciousness, how can anyone assert them, or am I to verify them? It will perhaps be said that they hide themselves from me by 'lying in the heart of the Will' and keeping 'concealed in it'; and that due notice is given of this by the epithet 'implicit' attached to them. But if 'implicit' is to mean 'withheld from consciousness,' how, on their becoming 'explicit,' is their occult pre-existence to be known and rendered affirmable? Besides, it is surely a contradiction to speak of *Reasoning*,—the passage of the mind from thought to thought, from premiss to conclusion,—as 'implicit': it may be a quicker or a slower flight from end to end, and with interest in the terminus which eclipses the instrumental process: but the moment the conclusion is challenged and the path to it has to be defended, possession may be taken of it step by step on the mere reverting of attention to the spot. The antithesis 'implicit and explicit' applies only to *synchronous* contents of thought, which may be lost sight of in the unity of the containing object, or may not even have been yet, as attributes, disengaged into view apart from it or from one another, though contributing their unrecognised share to the single impression which it gives. Thus, the mental presentation of Space is the prior and simple ground on which its three dimensions emerge and are recognised as its eternal predicates, though we knew them not. And if, as I hold to be the case, our 'idea of an object' is not built up by aggregation of its qualities, but exists first as an undivided unit, on which

the several qualities come to the front one after another through the experience of similars with a difference, we may say with good warrant that these qualities were implicit before they were explicit: for the unbroken unit of thought was not what it would have been, had any of them been absent. On this ground then, viz. that the relation expressed by the phrase 'implicit—explicit' is predicable of the contents only of a group and not of a series, the supposed process of 'mediation' in the 'form of percipience' appears to me inadmissible.

Suppose however this barrier *in limine* annulled, and the path clear through the several stages of the 'form of percipience': I fear it will bring us to the wrong result. Whence do we get the predicate of necessitating efficiency assigned to the word 'Cause'? From the closed links, we are told, of the chain of 'mediation,' and the irresistible cogency with which they conduct us to the conclusion. But this cogency determines nothing except the order of our inference, and exemplifies only the law under which we are thinking subjects. It has no objective power such as we attribute to causality; it does not create, but only disclose, the truths to which it leads. It gives the statical *ratio essendi*, and not the dynamical *ratio fiendi*; and it is the latter alone that we want in the term *Cause*. What is found therefore in the process of mediation is not what is wanted for the result mediated; and it is in vain for the author to 'emphasize the fact that in that mediating process there is contained *causal* necessity'[1]; and to assure us that hence 'it follows that all phenomenal contents of knowledge can *be to consciousness only as caused*'[2]. In an Hegelian writer we should hear without surprise that the 'cause or ground of the external is contained in the *therefore* of sufficient reason which lies in the bosom of the mediating process of all possible percipience,' and that 'the universality and necessity of the causal predicate' is 'implicit in the act of percipience, and so Reason-born'[3]: but such

[1] P. 81. [2] P. 94. [3] P. 112.

identification of the λόγος with the αἰτία, such offer of the *logical* necessity as warrant for the *physical*, was hardly to be expected from the advocate of 'a return to Dualism.'

A similar account is given of the predicate 'Antecedent' habitually assigned to the term Cause. 'Why is Cause always necessarily conceived as the *time-prius* of the effect?' The answer is, 'because all thought is in time, that is, is a moment in the continuity of being, and the fundamental form of reason yields *Sufficient Reason* or *Cause* as the *prius* of the completion of its act, which act is the Percept[1].' Of two movements, for instance *A* and *B*, in immediate consecution, why is *A* affirmed to be the cause of *B*? The answer is, because it is 'the time-antecedent.' 'And why the *time*-antecedent? because in the form of percipience the causal moment is the *prius* of the issue of the whole movement[2],' that is, the Sufficient Reason introduces the conclusion. The answer adduces a 'reason' which seems far from 'sufficient'; because in our thought the premiss precedes the inference, its physical counterpart Cause must be construed as antecedent in time! the priority of λόγος in reasoning is mistaken for antecedence in the αἰτία! Surely the ground thus assigned to justify the predicate is precisely that on which the sceptic would proceed to prove it an illusion.

Among the steps of the percipient process the Sufficient Reason precedes the conclusion; and this order, repeated in their physical counterparts make *Being* the sequent and dependent on *Cause*. Existence therefore, or '*is-ness*' (as Professor Laurie says) emerges both inwardly as *an inference*, and outwardly as *an effect*: causality is in thought before the idea of anything that *is*; and all that is, whether thing or event, presents itself as derivative[3]. If this be so, then the 'Cause,' of which we think first, must as yet be non-existent; and yet is charged with the task of calling up existence; and we are in a condition to think of it before either it or we exist! Well may Professor Strüm-

[1] P. 113. [2] P. 121. [3] Ibid. Cf. pp. 102, 103.

pell protest, as we have seen[1], against this paradoxical order, and, in inverting it, insist on 'existence' as a *postulate* indispensable to all our dealings with causality. The lesson learned in perception is always *What* an object is: it tells something which we may predicate about it; but the possibility of this lesson already implies *That* it is; the predicate it teaches presupposes a subject to which it is to go. '*Is-ness*' therefore is not got out of perception, but taken into it. A slight qualification which this statement needs will presently be added.

This question respecting Being or Reality, whether it is validly *proved*, or simply *assumed* by a subjective necessity on our part, is of cardinal importance, as the point of divergence between the Kantian Idealism and Professor Laurie's Dualism. If the idea of outward existence be only a postulated starting point for us, there is no test of what it may be worth: were it an illusion, it would be with us all the same. Nay, if we got it by carrying over our logical 'form of mediation' into external nature as a model for her order of things and of phenomena, who could say whether this was anything more than dressing up for ourselves an objective world in our own likeness? And the reader of *Metaphysica Nova et Vetusta* may pass through chapter after chapter without seeing room for any other interpretation, and wondering where the Dualism is. He finds the central doctrine, of percipient Will or Reason, couched in the very language of idealism: 'this new power' being characterized as 'the power of *imposing self on* (or subsuming into self) the presentations of sensation and attuition[2]. But this phrase gives a false impression of the author's meaning. He believes in the legitimacy of the 'form of mediation' as the source of categories for interpreting the external world, and is persuaded that what our thought reads off from our own dialectic is also in the things themselves to which we apply it, being the movement also of the universal Spirit, and so

[1] Supra, p. 134. [2] P. 20.

a true commerce between Nature and Man;—'the thought that, first passing into us, then emanates from us, *not to be imposed upon*, but to be found in, the phenomenal, which along with that thought constitutes the reality[1].' As the volume approaches the close, the expression of this answering relation becomes still more distinct and emphatic.

'The dialectic movement of Reason yields Cause, just as it yields the Absoluto-Infinite and Being, as immanent ground of all that exists and of our synthesis of the conditioned. The Reason in the universe thus and not otherwise passes into us as children of nature, and, as it is the Form of the universal Will, so it becomes the formal movement of that Will as finite, in its attempt to take nature to itself. Reason can be seen only by the eye of Reason. And yet we would in our weak perverseness reduce Reason itself to the sensible and phenomenal[2].'

Here we are brought to the true terminus, as at the outset we were planted at the true starting point, of all philosophy, in the fact of Perception. It is on the road between the two that the author's comrades will be apt to fall away, in doubt whether he is on the right track and will ever lead them home. Had he been content to accept the non-Ego as, like the Ego, *immediately* known in the act of perception, and to defend its reality, if impugned, as a *postulate* of all intelligence, his thesis would have been less ingeniously worked, but, I believe, more securely made good. 'Dogmatic' it would doubtless have been called; but sophistic it could not have been. But when, in the anxiety to make security doubly sure, immediate certainty is pulled to pieces in order to furnish a process of 'Mediation,' several weak and wire-drawn links are substituted for one that is infrangible. To let Being itself remain unreached till it comes out as an inference, to give the semblance of a reasoned result to the condition of every possible premiss, to construe the relations of the non-Ego by those which are familiar to us in the Ego,—causal neces-

[1] P. 153. [2] P. 173.

sity by logical cogency, and causal antecedence by logical priority,—is to overply the resources of Dialectic, without escaping the idealistic tendency to throw around us a universe which is a mere reflection of ourselves.

I deem it a misfortune to have been obliged, in treating of causation, to select for notice the side of Professor Laurie's comprehensive treatise which least commands my assent. Elsewhere, in matters not relevant to my present purpose, it abounds in admirable expositions and acute criticisms; and especially indicates a clear insight, founded upon accurate knowledge, into the insufficiency of the empirical psychology as a base of metaphysic philosophy.

b. *In immediate Perception.*

The gains conferred upon us in Percipiency appear to me not only more immediately won, but even greater in amount, than Professor Laurie represents, or Kant allows. They both of them sanction the common dictum of empirical psychology, that, with no other endowment than sensitive receptivity, we should have in consciousness an 'aggregate of sensations,' separate synchronous 'units of sensibility, situated within one and the same organism [1],' a 'manifold of Sense' [2]; out of which multiplicity the merely 'attuent' animal, by 'reflex co-ordination,' effects a 'synthesis,' or 'synopsis' constituting for him a single thing. In the same way the 'idea of an object' is built up, according to James Mill, out of its various sensible effects closely cemented together by association; its qualities subscribing to make it up into one. I venture to say that this is an inversion of the order of nature, and exaggerates the resources of the simple receptivity on which percipiency is superinduced. So far is it from true that we necessarily have as many feelings in consciousness at one time as there are inlets to the sense then played upon, that it is a fundamental law of pure sensation that each momentary

[1] Metaphysica Nova et Vetusta, pp. 3, 7.
[2] Kritik der reinen Vernunft. Rosenkranz, ii. p. 76.

state of the organism yields but one feeling, however numerous may be its parts and its exposures. There is no function of the human body unattended by a special sensitive condition: the glandular secretions, the circulation of the blood, the respiration which decarbonizes it, the action of the skin, are all tributary to the general life-feeling of each instant; which accordingly is changed at once into *malaise* as soon as any one of them is suspended or disturbed; but so fused together are the effects of all, that numerous as they are in fact, to consciousness they are but one. In order to disengage the contributions from each other, and let us know the amount and kind of each, it would be necessary to break their constant concomitance, and ring the changes of combination by stopping now this and now that, while letting the others run on. The differences would then stand out, and, as one after another appeared in front, we should be disenchanted of our supposed unconsciousness. The experiment, though not at the command of our will, is to some extent enforced upon us by pathological vicissitude. Supposing it to be tried, the result would be the emergence of the many out of the one, an analysis and not a synthesis.

To this original Unity of consciousness it makes no difference that the tributaries to the single feeling are beyond the organism instead of within it, in an outside object with several sensible properties, instead of in the living body with its several sensitive functions. To the infant, feeling his way through his earliest lessons, a white billiard-ball speaks through more senses than one; but in his consciousness are there present one feeling for its shape, another for its size, a third for its smoothness, a fourth for its hardness, a fifth for its colour? and does he put together these several components into a single 'aggregate'? On the contrary, he gains an undivided image of the object, as he has an undivided feeling of himself without knowing anything about his eyes or his hands or his muscles or his skin; and not till you offer him a red

fellow-ball to the white, does the colour begin to loosen itself from the image and threaten to float off as separable; and then, a marble will do the same for the size; till by repetition of differences the variables are detached, and the constants retain undisturbed possession of the original unity. The unity therefore is not made by 'association' of severed components; but the plurality is formed by *dissociation* of unsuspected varieties within the unity; the substantive thing being no product of synthesis, but the residuum of differentiation.

But long before this, indeed ever since the first breach of the original unity of consciousness, Percipiency has been at work upon the field; for it is precisely the breach of unity, the irruption of contrast, that wakes it up in the human mind (I cannot speak for birds and dogs), and turns a flash of energetic attention upon the emerging difference; and from this moment, the active Ego claims its part, so that without it nothing shall be done that is done. An activity which *distinguishes*, which takes notice that *this* is not *that*, is no variety of sensation; it is not receptivity, but its opposite; it does not happen to us, but issues from us. Without it, we should indeed feel, but we should know nothing, not even what we feel; for we could direct no inward look upon our own states, so as to make them our objects, and count them as they pass, and compare them as they stand. Not only do we first begin to know, when that look darts from within; but we again cease to know, whenever it afterwards absents itself. 'The impression of light,' says Scheffler, 'if received without any attention, produces no self-consciousness; but the material change which, even without attention, that stimulus of light generates, may subsequently, when the rays have long been quenched, awake the mental consciousness, and so an object may emerge before the mind, which had previously sent us unawares its rays into our eyes[1].' The inadequate appreciation, or even positive denial, of this

[1] Physiologische Optik, § 9. 3, p. 169.

incompetence of mere sensation has not unfrequently weakened the whole structure of the empirical psychology, and left it, in spite of infinite ingenuity, precarious as a house of cards. James Mill, for instance, prefaces a book full of admirable analyses with this unfortunate statement of principle: 'The having two sensations and knowing they are two, are not two things, but one and the same thing;—is not only sensation, and nothing else than sensation, but the only thing that can in strictness be called sensation. The having a new sensation and knowing that it is new, are not two things, but one and the same thing.' 'Suppose that, without any organ of sense but the eye, my first sensation is red, my next green. The whole process is sensation. Yet the green is not the red. What we call making the distinction, therefore has taken place, and it is involved in the sensation.' Not even John Stuart Mill could re-edit these passages without intimating his dissent from them, and admitting it to be 'by no means certain that, when we have two feelings in immediate succession, the feeling of their likeness is not a third feeling which follows instead of being involved in the other two.' 'We do not get rid of any difficulty by calling the feeling of likeness the same thing with the two feelings that are alike: we have equally to postulate likeness and unlikeness as primitive facts, as an inherent distinction among our sensations[1].'

The psychologist who is in search of an example that may come nearest to the life of pure sensation usually has fixed on the oyster as encumbered with a minimum of anything else. On finding it credited by Mr. Hazard with a tolerable supply of knowledge, I was about to cite him as a courageous re-assertor of James Mill's paradox. But I should have done him wrong; for, instead of attributing the oyster's knowledge to his sensations, he supposes the creature to come into the world ready furnished with the

[1] Mill's Analysis of the Phenomena of the Human Mind, J. S. Mill's edition, vol. ii, pp. 11, 14, 18.

knowledge of what it wants, and endowed with intelligence to perceive the object, and to direct upon it the effort of its will [1]. His doctrine presents therefore a contrast to Mill's; the oyster's knowledge having the least possible to do with its sensation.

Essential however as the spontaneity of the Ego is to the first step in cognition, it would be no less incompetent than the receptivity, if existing by itself alone and spending its movement *in vacuo*. The automatic actions of our organic life, of heart and lungs and glands, are (under normal conditions) as little known to us as their attendant sensations; nor is it true only of the purely and constantly reflex animal actions, that they cannot notice themselves. The same mechanical character may belong even to operations regulated by the organs of special sense; for when Göltz had removed the cerebral lobes of a frog while leaving the spinal cord, the creature, on being irritated and made to jump, would avoid any object placed in its way; though the condition of consciousness and therefore of knowledge was gone, the stimulus on the eye sufficed to secure the appropriate muscular action [2]. By turning to account this undoubted type of activity and exaggerating its analogy, some modern physiologists have extended to Man Descartes' doctrine of animal automatism, and dispensed with his need of consciousness at all. And however unreasonable the theory may be, the mere fact of its existence on the strength of a real analogy, shows that the question is one of limits and not of possibility, and that activity, pure and simple, does not suffice to secure cognition.

But when these two incognitive conditions come together in man, Perception springs from their mutual play. Neither receptivity nor spontaneity can be unlimited; the former is relative to definite data; the latter encounters foreign

[1] Two letters on Causation and Freedom in Willing, addressed to John Stuart Mill, by Rowland G. Hazard, 1869, pp. 87, 88.

[2] Cited by Dr. W. B. Carpenter, Contemporary Review, Feb. 1875, p. 411.

resistance; and when the two meet upon the same field, passing to their end in opposite directions, the clash of the crossing lines wakes us up, and from the darkness of feeling strikes the light of Apprehension. Rays impinge upon the retina and leave a visual *sensation*: the startled spontaneity replies with a more or less energetic *look*. The light goes out; the sensation lapses of itself, and the look is dropped by the gazer. Of this experience the component factors cannot but stand out from each other; the difference must be felt between what comes to us and what goes from us, between what we cannot help and what depends on us. Still more distinct is the case when the initiative is taken by the spontaneity. The arm is flung out towards the measure of its length; it is arrested by a book upon the table; if the initiative impulse is lively, it will not be baulked, but redoubling itself will push the obstacle away, and so complete itself. The contrast between the first pure spontaneity and the counteraction it receives, and again between the two intensities of energy on the change halfway, reveals itself at once in the moment of collision; but no element of it before; for it is the impediment that serves as tell-tale of the free energy it stops; and when the check is defied and thrown off, the movement assumes a new character and is thenceforth delivered over to the Will. As the ethereal undulations from sun and star fly through the infinite and leave it darkness except where they are challenged and tripped up; as the hurricane sweeps overhead in silence, and reserves its roar for the resisting forest and the ambitious cities of men; so is it the encounter and strife of centrifugal and centripetal movements, of the sensory and the facultative life, that supplies the conditions and the occasion of Percipiency; giving opportunity to the Understanding for bringing its own inherent forms into use, and consciously disposing under them the materials of feeling previously unorganised.

The fundamental discovery opened upon us in this experience is the dualism of *Self* and *other than Self*, both

of which start into the field and divide between them the contents of the percipient lesson. Whatever the change be which breaks the prior continuity, be it the incidence of a contrasted sensation, or be it the arrest of a current spontaneity, it instantly leads to what is no longer an element in us, but an act by us; in the one case an attentive look turned upon the new feeling, in the other, a determined effort to persist in a movement which before had gone on of itself. We cannot behave thus without knowing, that both the feeling at which we look and the energy we put forth are *ours*; while that which gives the feeling, and that which receives the energy, are something *other than ourselves*. To each member of the dualism therefore we assign both a passive and an active predicate; and each is so far the counterpart of the other. We are born into self-consciousness in the moment of disputed spontaneity, and instantly assert ourselves by taking into our own hands the power which before was only passing through our nature. And as it is a shock of interrupted feeling that gives us notice to do this, the feeling must have the same owner as the power; and both are necessarily referred to one point and taken home to the Ego; henceforth known as the subject of both the sensory store and the forms of activity. These two heads exhaust all the possible contents of the Ego; and whatever is without place in the one must be sought in the other.

All else than these contents is embraced in the non-Ego. This is revealed to us only as the negative correlative of the Ego thus composed and given to consciousness. Its terms are therefore the same pair, passive and active, only with their positions inverted; passive under our activity, active for our passivity. This interplay of microcosm and macrocosm does not wait, it will be observed, for empirical discovery, but is involved *a priori* in the mere act, indeed in the possibility, of percipiency.

This one comprehensive antithesis gives account of several truths, not as sequent inferences from it, enriching

it by new discoveries, but as contained in its own meaning, yet admitting of separate expression. They constitute, in short, *functions* of it, distinctly conceivable, but irremovable from it without its vanishing altogether. Of these, the most obvious is the relation of *Cause and Effect*, the cradle of which we here reach at last, after long and, I fear, wearisome approach. It is evident that, if the foregoing exposition is correct, the Ego and non-Ego are known to us *ab initio* as reciprocally limiting powers put forth by antagonist agents and operating change in some recipient object. If I know myself at all, it is in *trying* 'with all my might' to do something needed but difficult, to heave away a retarding resistance; nor does anything sooner bring home to one the poise and counterpoise between Self and Nature, than the attempt to shut a door against a furious wind. When thus withstood and resolved to persist rather than desist, I am conscious of exercising a causal Will to institute or sustain efficient movement. It is the most intimate and familiar fact of life, the very nearest to my own centre, the assertion of the essence of me; nay, more, the sole initiation possible for me into any δύναμις at all; for all merely visible changes are but a scene-shifting to the front, while here I both am myself the charge of power, and bring the poles together to direct its discharge. The unique significance of this point of consciousness has been appreciated by at least a few of the most competent philosophers and critics of philosophy. Zeller, for instance, says, 'When man begins to reflect on the grounds of things, the question of the *Why* (Warum) is forced upon him first by particular phenomena of the more striking kind, and in course of time by continually more of them, and in answer to this question the first notions of causality are formed; he is at the outset guided in this matter by no other clue than the analogy of his own Willing and Doing. For *we ourselves are the one only cause of whose mode of action we have immediate knowledge, through inner intuition.* In the case of every other, though we may perceive its effects, we

can only infer from the facts, and cannot immediately learn by perception of the facts, the mode and kind of way in which those effects arise, and the connection of them with their cause[1].'

If we are thus absolutely dependent on this single 'inner intuition' for our knowledge of what causality is, it must fill and constitute our whole idea of it and the 'way in which effects arise'; nor can anything ever be added to it, as there are no other sources which can tell us anything about it; it is confessedly entrusted to us as a secret of our own. It determines the meaning of the word *Cause*, and determines it for ever. Zeller therefore understates the case, in saying that only '*at the outset*' man 'is guided by no other clue'; virtually contradicting the next remark, that 'other clue' there is none. Nor does it seem correct, under these conditions, to speak of 'inferring from the fact' notions of causality different from 'the first,' which we 'immediately learn by perception of the facts.' It is not by analogical inference, but by an *a priori* axiom of the understanding, that we apply the causal relation to the external world; and if we take the name of it thither, we must carry the meaning too; for if we drop it by the way, it is never to be recovered there. It would not get there at all, if the phenomena of the scene presented themselves only in their relations to each other; but before they do this, they enter into relations with ourselves, the privileged trustees of causality; and are commissioned to reveal to us the nature of our power by thwarting it; for nothing gets known except through its negation, and, as shown above, we first become alive to our agency by more or less losing it against impediments. This encounter sets us face to face with Causality other than our own; which presents itself to us (since nothing but power can arrest power) as a homogeneous causality from the outer

[1] Ueber teleologische und mechanische Naturerklärung in ihrer Anwendung auf das Weltganze, Berlin, 1876, p. 19. Transactions of the Academy of Sciences.)

sphere and in the opposite direction. Having thus possession of the antithesis,—Cause within and Cause without,—the latter term becomes available thenceforward for external changes within themselves; a field where the idea could never have entered, but for the intermediary negociation of the human agent.

If it be thus that the understanding first brings this important category into play, its essential features come out into a clear light. Not till we put forth and direct our own causality, whether simply percipient or motory, have we revelation of the causality of the world; so that it is not in mere exposure to changes, but in concomitant production of them, that this intellectual intuition is gained. Further, in the genesis of our consciousness, both the Ego and the non-Ego are embraced as foci within the same category of causality, and in the same objective relations. True, the subjective focus has in it, as a seat of consciousness, an *immediate feeling* of operative Will which can only be reflected on to the other. But reflected it is, and must for ever be; for it is identified with the inmost essence of the sole causality accessible to thought. And accordingly, it is read by us into the non-Ego as what would be stirring in us if we could change places with it; and is in truth the ground of that *fellow-feeling* with Nature, which philosophy, deluded by its own abstractions, rashly surrendered to the poet, but will have to beg back again, whenever it returns into living relations with reality. To the world we are introduced, not as to a dead thing, or material aggregate of things, but as to another Self, just as causal as we, instinct with hidden Will, and so far presenting the outer and the inner spheres in true equipoise. This first aspect no doubt is greatly changed by ulterior analysis, till the whole external scene, once so busy with its work and purposes, comes to be regarded as an assemblage of *effects*. But it will be found that this inevitable change involves no surrender of the primary intuition, but a mere redistribution of the phenomena to

which it is applied, and a shifting of the position among them held by the originating cause. In the dualism, then, which Percipiency opens to us, we are placed under an irrepealable necessity of thought, to this effect: Here, at home in the Ego, we have first-hand acquaintance with Causality; in the reaction of objects upon us, we know their resistance to be simply its inverse or opposite; and so, on the principle that *περὶ τῶν ἀντικειμένων τὴν αὐτὴν εἶναι ἐπιστήμην*, we recognise in them the same attribute by which we ourselves have moved forth upon them.

In treating of this causal antithesis, I have unavoidably discriminated its two terms by the epithets *inner* and *outer*; words which introduce us to another antithesis involved in the percipient act, viz. of *Here* and *There*, as contrasted positions of co-existence. Having had occasion already to show how this geometrical distinction carries with it the whole idea of Space and is related to that of Time[1], I recur to it only to bring up for judgment a disputed question which, when before mentioned, was left in suspense, waiting for our present point of view. We found one authority affirming that our belief in the existence of things without (i. e. the contents of Space) is an inference from the principle of Causality; another, insisting that, inversely, the idea of causality pre-supposes external existence and phenomena. It will now be evident, I think, that neither of these beliefs can be before or after the other; the percipient act, in setting up the Ego and the non-Ego for our consciousness, opposes them both causally and geometrically; and *that* not mediately, through any logical interdependence, but immediately and simultaneously, as functions of the containing thought itself.

There remains, involved in the percipient act, one other antithesis, of which a few words must be said, viz. that of Entity and Attribute. The phenomena which, under the eye of self-consciousness, range themselves within their respective spheres of *Self* and some *other than Self*, do not

[1] Supra, pp. 63–65, 132–134.

betake themselves thither as a loose multitude, sheltering under these two roofs; but are referred to the one or the other as to their essential home which claims and holds them by inalienable right, not to say inherent necessity. In assigning the heat which reaches me, and the flame which plays before me to the fire, and the feeling of warmth and the vision of flashing light to myself, I perform more than an act of assortment, tying up experiences in parcels, and saying to one, 'You go there,' and to another, 'You come here.' I do not allocate; *I predicate*; i. e. affirm the burning fuel to be a *substance* to which the heat and light belong as *attributes*; and myself to be the *person*, whose senses are affected by these qualities. It is the same when the attention is turned inward, instead of outward. In its self-consciousness the Ego is discovered as the Subject of the act of feeling; I am introduced to the apprehension of two related terms, the act or feeling, and myself to whom they belong. The relation embraces both; and whatever cognition I have of the feeling, I have also of its being a phenomenon of my own existence. Wherein then consists the difference between these two terms which fits the one to be predicable of the other? In this; that while the act or feeling is a present change, the Ego is a *permanent* whence the change issues or whither it arrives,—which was there before and will be there after. It presents itself as a *continuum*, other than the phenomenon in *not being* a phenomenon, but *having* it: in other words, it is thought of under the form of Time, which alone renders change appreciable by contrast with the unchanging. In both cases, the outward and the inward, the understanding demands and provides a native habitat for phenomena; and the difference is, that *Substance* harbours the possibilities of *synchronous* phenomena; *Self*, of *successive*; in either case, an *Entity*, whether its unity extends in three dimensions, or in only one. That this idea of a superior Unity for differences, a non-phenomenal for the phenomenal, is inseparable from the action

of the understanding at all, is evident from its surreptitious re-appearance in every artifice for dispensing with it. It is said that we know nothing about any object but its qualities, so they must be the whole of it; shape, colour, lustre, etc. But of these it is impossible to think as a mere co-presence or public meeting of individual attributes; let their assembly be called ever so frequently, their collateral re-appearance will not constitute the organic tie by which we hold them in unity: as well might we try to make up a tree out of its own scattered leaves upon the field. Not till we supply the other term of the relation, and refer to a permanent object in which they inhere and of which they are modes, do we find them intelligible. You cannot get up the thing by subscribing its attributes; it *is* not they; it only *has* them.

The doctrine of the indestructibility of matter and of the migration and transformation of energy are but applied forms of this *a priori* thought, though often treated as if they were inductions of experience. They assume that aspect only because what is taken for substance to-day may cease to be so to-morrow; the term being applied at first to any separate object presenting itself as a unity, apparently the permanent and independent supporter of its attributes. But, for a concrete individual, this character can never be more than provisional; on a wider view it may turn into a satellite on something else, and be transferred to the dependent side of the relation. Or, when looked into with microscopic eyes, better still through a more than microscopic calculus of infinitesimals, it may resolve itself out of all statical persistence into innumerable molecular dartings and percussions, swarming with dynamical problems needing an eternity to work them out. But then the idea of Substance, though driven into retreat from its immediate haunt, does but walk abroad and betake itself to a higher level, and command a vaster field beneath. The numerical reduction is compensated by more comprehensive range. You may sweep the thought out from this hiding-

place and that, and hunt it through the universe; but it will only run to higher altitudes, and take refuge at last on a summit which you cannot invade.

Between the relation of Substance to Attribute and that of Cause to Effect there is sufficient resemblance to prevent surprise at their frequent identification. Yet the distinction is precise and plain. In both instances the relation is, for the second term of the pair, one of *dependence*: but on *Substance* it is a dependence of *co-existence*; on *Cause*, a dependence of *origination*. A Substance manifests, but does not make its attributes; a Cause produces its effects. And though both the dependent terms express what is phenomenal relatively to their priors as non-phenomenal, yet it is with a difference; for the attribute of a substance is not any *change* in it; it does not begin and cease to be, but is immanent in the being of the thing: while the effect of a cause is a transient event thrown out by an act and forming part of a sequence. We should perhaps hardly deem the abiding quality of a thing phenomenal, were it not for its also playing the part of cause by delivering sensations on our receptivity whenever we expose ourselves to its influence; but, as it does this, now to one and now to another of us, and disappears from view as soon as each one marches past, the manifestation seems to have the transiency of the observers' train. Accordingly we do not speak of properties of Space, or of a geometrical figure, as its *phenomena*, looking at them, as we do, exclusively in relation to the object which has them eternally. In this case, indeed, another reason enters which prevents the parallel being quite complete; the interdependence of properties in a geometrical figure not only is reciprocal *inter se*, but extends no less to what is selected as its essence and named in its definition; so that by a different selection and corresponding variation in the order of deduction, the whole group may be secured in another way. Under the term Substance, on the other hand, we understand a Unit of Being, not on a level with its properties and capable of changing places with any of them,

but the superior possibility of all alike, and the common ground of their co-existence. Such an idea, of the radiation of the one into manifold though invariable expression, verges on the relation between the phenomenal and the non-phenomenal, and can do no wrong in resorting to its terms.

It is needless to follow the contents of Percipience into further developments, the categories which we have reached sufficing for the area of thought which we shall have to traverse. To sum up in brief the positions which define our base; the collision of the mind's activity and receptivity breaks a sensory monism into the cognitive dualism of Self and Not-self, each with its own activity facing the other's receptivity. The two activities, taken as a related pair, and construed by the member immediately known, constitute, in dynamical antithesis, Cause within and Cause without; the two receptivities, inversely, Effect without and Effect within. But, to be thus provided with a *within and without*, the dualism must also carry a geometrical antithesis of *here* for the Self with its contents, *there* for the Not-self and its contents, involving Space, and, after more than one perception, Time. Thus completed, Perception finally recognizes, in the perceiving subject and in the perceived object, a predicate over and above the acts issued and the states received, both of which are in time-order, viz. a presence in Space, irrespective of succession, and the standing-ground of it; that is, self-identical *existence*, or subsistence, in antithesis to changing phenomena, whether given out or taken in. It needs but little reflection to be convinced that no one of these thought-relations has any rights of precedence over the rest, any logical or psychological priority; with the exception of the last, which asks for time enough to allow the qualities of an object to disengage themselves, by an appeal to the several senses, from the original 'unity of consciousness.' All the rest are alike and at once implicit in immediate perception of any and every kind; and not being separately contributed by empirical lessons, or deduc-

tively worked out by reasoning process, are brought into experience by the understanding *ab initio*, and must be treated as its intrinsic categories or conditioning laws of thought.

This analysis of the cognitive contents of Percipience prepares us to determine the inmost meaning of the word *Cause*; and to understand how it comes to pass that the term is claimed now for a *thing*, and now for a *force*, and again for a *phenomenon*. Revert to the example given of the birth-moment of the idea, viz. the point at which a blind impulse in full career, meeting with an impediment, comes out of the dark for me, and, waking up my Self, throws it upon *me* to persist or to desist. At that moment I become aware of the impelling force which has been moving me, and is in me still, and may yet do more if not let drop at the challenge of the impediment. But, on my persisting, that force enters on quite a new relation: it changes masters. Before, it invaded my organism from some stimulant outside, and took possession of me without my leave, or even knowledge; and I was its vehicle and slave. Now, its turn has come to serve; it depends on me to take it up or stop it short; it is delivered over to be the tool in my hand, and to be laid down or wielded, as I may choose. In other words, it is at the disposal of my *Will*; and in virtue of this, *I am the cause* of what it will do. To be at the disposal of Will means to be ready for either branch of an alternative; for, selection in presence of such possibilities is the sole function of Will,—a function predicable of nothing else. Cause, therefore, if you enquire of it where it takes in its significance at the fountain head, means that which can settle an alternative, viz. a disposing Will.

In fixing thus upon the act of choice as the rightful claimant of the term Cause, we evidently give the title, with Schopenhauer, to *a phenomenon*, to the exclusion, apparently, of both *thing* and *force*. Here, however, a distinction must be observed among the cases in which we

press enquiries about Causation. Cause *of what*, is it that we ask? If, as most frequently occurs, of *this* particular event rather than of *that*, the answer will name some single phenomenal fact that makes the difference. But if we want an account of vast groups of facts massed together under a common head, such as the gaseous, liquid, and solid states of bodies, or the ebbing and flowing of the tides, the answer will indicate, probably, some *force* whose special name has been appropriated to these phenomena in the same class, and alone enables us in one affirmation to say the same thing of them all. Indeed the distinction of *forces*, if pushed to the furthest scrutiny, would turn out to be but a device for the classification of phenomena according to the rules of their occurrence, and to denote their laws only, and not their dynamic origin. The modern conception of the interchangeableness of forces really means that they are in the last resort homogeneous, distinguished, not in themselves, but in the kind of phenomenal relations which give opportunity for this or that kind of work; so that 'Force,' though indispensable for *all change*, can never, for that very reason, account for its being this change rather than that; that is, can never properly be assigned as *Cause* of any single event. *That* must be sought in the selective phenomenon which determines an alternative. The same disqualification attaches to 'Thing' or 'Substance,' that is, permanent *Being* in space. Like Power (in the potential state), it also is a non-phenomenal essential to the birth of any phenomenon; without existence, there can be no happening. You may indeed, by mentioning some particular thing, enable your enquirer to look in the right place for what he wants; but only because the thing is the theatre of an *activity* operative either immediately on his senses, or on some other object which reports its change; and this *phenomenal act* (the thing's 'quality'), for instance, the exclusive reflection of one end of the spectrum, is the true cause of the red colour by which you are affected. It is obvious that the causal claim of Thing is further from the truth by one remove

than that of Power: without Being or existence, there is no possibility of Power; without power, no possibility of act; without act, no possibility of effect, that is, no Cause. The last alone gives the answer which we want.

There is nothing new in saying that we learn what causality is by our own exercise of it in willing. There is nothing new in saying that willing consists in determining an alternative. But the combination of these two propositions is unusual; and to clear it from misapprehension and prepare the way for its applied use, it will be advantageous to enumerate the several ranges of meaning which have been given (often without any exact definition) to the word *Will* by authors who have made a special study of the faculty which it denotes.

(1) So far as I am aware, the sense to which I have restricted it, viz. the *choice between two alternative directions of activity*, is the narrowest which has been given to it. It is so usual, that it is superfluous to quote examples.

(2) A larger scope is gained for the word by dropping the idea of an alternative, and requiring only *action upon conscious motive*; the word *motive* being understood as *end in view*. This is the sense in which the word is taken by most determinists among English authors.

(3) Professor Laurie enlarges the boundaries still further; so as to include the whole energy of the Ego in percipience, whether cognitive or active; and to cover the contents of percipience under the twin phrase Reason-Will, either word of which may answer for the other[1].

(4) In Mr. Thomas Solly's Treatise on the Will, it is made the source of all, even reflex, action from stimulus or impulse, and therefore treated as predicable of all animated nature[2].

(5) Dissatisfied with any remnant of exclusion, Schopenhauer still widens the door, and admits into the concept all energy whatsoever, and credits Will with all the phenomena

[1] Metaphysica Nova et Vetusta, Part First, chap. iii.
[2] The Will, Divine and Human, p. 20.

of the world, inorganic as well as organic. He therefore withdraws from the components of the word's meaning the items of Consciousness and Idea; and it becomes for him co-extensive with Force, and is, like Matter, the non-phenomenal prerequisite to every causal change[1]. He thus, I conceive, identifies *Will* with the wrong element, viz. with the permanent quantity *Force*, instead of with the phenomenal act, *Cause*, which gives direction to a portion of the store. But he rightly appropriates the word Cause to the *determinant* act. Only, after limiting the meaning of Causality to this selective function,—of *this* rather than *that*, he was not in a position to say that Force, though not causal, 'lent to all causes their causality': for it does not lend them *their selective or determining function*, having none of its own: what it does lend them is *the power of realizing* the particular effect selected. The truer statement would have been, that the selective act is the cause, just on account of its setting free the realizing power on the line it has to take. This was doubtless the thought in Schopenhauer's mind; its form only is disguised by its paradoxical expression.

The bearing of the foregoing account of the related causal and dynamical ideas upon our conception of the universal order will now be intelligible; and the briefest outline will prepare the way for the gradual filling-in of its contents. The notion '*Cause*' takes its form from the fundamental antithesis and correspondence of the Ego and the non-Ego, revealed in percipience as the constituents of one whole; the key to which is necessarily found in the home-factor. Here we learn what it is to be a Cause. It presupposes, because it controls, immanent Power; to which, by an act of will, it gives a selected direction. The alternative open to it may assume either of two forms. The offered power may be at the moment potential only, or may be kinetic. If the former, the alternative is, to leave the equilibrium undisturbed, or to break in upon it and institute a line of motion. If the latter, the alternative is, to assume and

[1] Die Welt als Wille und Vorstellung, Band I, Buch ii.

continue the current kinesis, or to alter its direction. It is in this determining act, of initiating or modifying, at will, a given quantity of energy, that the causality of the Ego consists. This act is of all things the most intimately known to us; and nothing else is known to us (as will be better seen hereafter) that can decide an alternative.

As the non-Ego is the correlative of Self,—the *alter Ego* which, under the conditions of antithesis, has to resort to the same categories for its interpretation,—it necessarily starts with corresponding predicates. Its changes, as subject to the principle of causality, we have to conceive of as *willed*, upon the ground of a presupposed power: which power, like our own, is regarded as immanent in the objective nature, only available for possibilities indefinitely more numerous than ours. We begin by attributing to it volitions entirely analogous to our own; capable of either initiating movement or controlling it; and in every determination, expressing preference and rejection, and direction upon an end. The objects that act upon us speak to us at the outset as with the voices and the meaning of a living world: every impression which it flings upon our attention seems the delivery of a separate volition; and, through the simply intuitive infancy of men and nations, life in its changes is little else than a colloquy between human and superhuman wills. The course of gradual deflection from this initial line of thought will presently be traced. But within our own personal experience of causation there is a provision for correcting and enlarging the crude dualism from which we start. The change on which my will is intent, be it only to get hold of an object seen upon the floor, is not in contact with me and to be immediately had; but is procurable only through a series of intermediate steps of change within the body and of the body, none of which enter our thought at all, several being quite unknown, yet which execute themselves while our purpose is fixed upon the end in view. What keeps the executive force rightly directed along these unmeditated instrumental lines? Since

we have not given it a thought, and its passage from beginning to end is in the non-Ego (i.e. our organism and its environment), we have to think of it as determined by a Will in nature accordant with our personal will. Our intent is enabled thus to reach its end by the long arm, through the external pre-ordination of mechanical links for the transmission of realizing power. The outer Will, which here only relieves us of the executive process, may carry its agency one step further, and reserve to itself the contemplated end as well as the means; and then we have the phenomenon of blind instinct, working with unconscious skill towards an issue unforeseen by the creature, yet essential to itself or to its kind. What is left, when thus the non-Ego has more or less superseded the exercise of volition in the dependent being, supplies us with the idea of *automatic* action. The name is an unfortunate misfit to the conception entrusted to it; for the phrase would naturally mean 'action whose cause is in the subject's self'; whereas what we want to designate is 'action whose cause is *not* in the subject's self'; the determining Will being elsewhere. The mixed case of personal initiation with automatic execution, exhibiting the consensus of both agents in one nature, presents the apparently necessary as really voluntary, and shows that mechanical intermediaries do not disturb, but distinctly exemplify, the Will-Causality.

The ultimate identity of meaning in the words Cause and Will, and the dependence of the former on the immediate consciousness of the latter, are indirectly attested by the frequent recurrence of even the most practised scientific intellects to the springs of human action as the true key to the dynamics of outward nature. When we find so severe a mathematician as Euler suggesting that the essence of *gravitation* must be '*inclination and desire*'[1]:

[1] 'Supposons qu'avant la création du monde, Dieu n'eût créé que deux corps éloignés l'un de l'autre, qu'il n'existât absolument rien hors d'eux, et qu'ils fussent en repos; seroit-il possible que l'un s'approchât de l'autre, ou qu'ils eussent un penchant à s'approcher? Comment l'un sentiroit-il l'autre dans l'éloignment? Comment pourroit-il avoir un

an astronomer so exact and physicist of range so large as Sir J. Herschel detecting in the sense of *effort* the prototype of the causal idea[1]: a physiologist so Democritean as Haeckel obliged to charge his atoms with 'desire and aversion,' 'sensation and will,' to fit them for their work[2]: the psychologist has some encouragement, from the use thus made of his familiar phenomena, to turn with hope to the intellectual record of our first experience for some formula that may grasp the dualism of man and nature, and bring them into the light of a related life.

§ 2. '*The World as a Heap of Powers.*'

The foregoing argument is constructed on the assumptions, that we know something other than our own states of consciousness; and that what we thus know plays the part of Cause to our inward and outward experience. Of the philosophers reviewed, every one who has admitted a reality beyond the Ego, whether in the form of a material world, or as the Kantian *Ding-an-Sich*, or as Berkeley's acts of the Divine Mind, or as the 'Absolute' of Schelling, has resorted to it as first fountain-head of all that comes upon the scene of things, and charged it with creative or evolving power. In the *processes* there traced even the Hegelian idealist finds his key to the rhythm of the universe and the movement of the human mind; they are answerable, in his view, for the stores of every science, the drama of all history, the rise and fall of all religions. It seemed therefore permissible to say that the Infinite Being presupposed in all phenomena must be sought in the field of his *Causality*; that there, if anywhere, must certain of his predicates be found; and that we could not go wrong

désir de s'en approcher?' Lettres à une Princesse d'Allemagne (of Anhalt-Dessau, niece of the King of Prussia) sur quelques sujets de Physique et de Philosophie: Lettre 68, Tome I, p. 266. Paris, 1787. Nouvelle édition, par MM. le Marquis de Condorcet et de la Croix.

[1] Treatise on Astronomy, chap. vii, § 370.

[2] Die Perigenesis der Plastidule, pp. 38, 39. The passage is given in Types of Ethical Theory, vol. ii, B. ii, Br. 1, § 6, p. 399, 2nd ed.

in reading, on the *tota facies naturæ*, some ideal lineaments of him.

Of late, however, a new version of Theism has appeared, which divests the Divine Mind of all causality, and finds its perfection in the exact correspondence of its consciousness with facts as they are: all-seeing, all-judging, right-thinking, but doing nothing and preventing nothing, it is the infinitude of Reason and the negation of Will. Had I been earlier introduced to this doctrine, and aware of the brilliant ingenuity enlisted in its defence, I should have felt bound to make room for its adequate treatment within the plan of these volumes. As it is too late to do this justice to Professor Royce's theory, I can only refer my readers to his fascinating book[1]; and meanwhile give such brief account of its main drift, as may render intelligible the grounds of my dissent from it, and apologize for my pursuing my way with only a slight reference to so original and vigorous an essay.

There is a singular contrast between the opening and the close of the author's enquiry. Leading us to rest at last in the deification of pure *cognitive intelligence*, he places us for our starting-point at precisely the opposite pole of experience: he requires us to work out our problem, not by the study of *things as they are* or ideas as they occur, but by shaping action *as it ought to be*, and giving ascendency to the right direction of life and character. He institutes a search for a moral ideal; and rightly insists that it is not to be found in the correct reading of facts; to know them as they happen to be, does not help us to conceive how they had best be: to effect *this*, we must change the scene, and from the mere deciphering of the actual turn to the comparison of the possible, following the clue, not of the *True*, but of the *Good*. The moment we attempt the choice, we are baffled for want of some

[1] The Religious Aspect of Philosophy, a Critique of the Bases of Conduct and of Faith: by Josiah Royce, Ph D., Instructor in Philosophy in Harvard College, Boston: the University Press, Cambridge, 1885.

authoritative guide; the ends of life which appeal to us with persuasive power are numerous and far apart. If I listen to that which speaks most home to me, I may be at the mercy of a subjective caprice. If I fling myself into the throng of life, to consult the dominant aims of other men, I am confused by the din of clamorous demands, tormented by the 'warfare of ideals,' and borne hither and thither by their 'instability.' There will be no want of advisers willing to rescue me and set me clear; the dogmatist inviting me into his patent ideal, to drive off with him through the crowd of impostors that fly at his approach; and the sceptic bidding me disregard the rival pretensions of all, and believe one as good as another, and each best as the fancy takes me. Professor Royce requires me to reject the one as a false redeemer, yet not despair, in spite of the other, of still determining a 'highest aim' of human activity. The very hopelessness into which I am plunged by the conflict of incompatible ends of human life, betrays the secret of an ideal beyond them all, and marks the first stirring of a 'moral insight' stealing towards that ulterior light. If there were nothing to choose among them, why should I care about their strife? If all are legitimate alike, no one is the worse for their dividing the wills of men among them, and my despondency at the sway of 'chance desires' is unmeaning. That I cannot part with it shows how I am haunted by a dream of *harmony*, as the over-topping crown of all the ideals, the τέλος τελειότατον of a 'Universal Will.' The hindrance to the attainment of this end is the pre-occupation of each will with its own particular aim, and the unsympathetic gaze at the different drift of his neighbour's movement. The remedy is plain: break the bounds of your individuality; plant yourself in his enthusiasm; nay, realize all the several aims that engage the lives of others; let them be admitted to your thought on equal terms, as if the many wills had coalesced in one; and in this unification, the conflict will have died away: the moral insight into all human ends will have

conquered a peace for each; and your rule will henceforth be, 'Having made myself, as far as I am able, one with all the conflicting wills before me, I must act out the resulting universal will as it then arises in me[1].' This 'realization of others' life' is to be more than an imaginative representation to yourself of others' type of character; more even than sympathy with it as a foreign sample of heroism: it must be an entry on your part into their inner consciousness,—a fusion of your personality with theirs, so complete as to annul the difference between the *meum* and *tuum* of aim and experience, and gather all agency into one. By this 'moral insight' you are lifted above the very antithesis between Self and Not-self: it says to us all, *Act as one* being; 'the universal will of the moral insight must aim at the destruction of all which separates us into a heap of different selves, and at the attainment of some higher positive aim: the one undivided soul we are bound to make our ideal; and the ideal of that soul cannot be the separate happiness of you and of me, nor the negative fact of our freedom from hatred, but must be something above us all, and yet very positive[2].'

So long as the author is engaged in contrasting this consciousness that 'Other life is as my life' with the 'individualism' of the hedonist, of the sentimental cultivator of his own 'beautiful soul,' or of the defiant Titan towards all that resists his fixed intent, he easily persuades us that it has the advantage over them of 'insight' over partial blindness. But by what right is it called '*Moral* insight'? I see by it that my neighbour's aim is on the same footing of *existence* as my own; but *not* that both can have their way at the same moment; or, which of them *ought* to have it in preference to the other. The assemblage of all human ends within one consciousness may level their despotisms into a democracy; but it neither remedies their incompatibilities, nor secures them from anarchy. Try the case in

[1] Royce's Religious Aspect of Philosophy, pp. 172, 173.
[2] Ibid., p. 193.

your own person: is not your own mind the seat of warring ideals? and does your 'realization' of them as facts in self-consciousness suffice either to end the conflict, or to invest one with the authority of *Duty* over the other? If it does, it must be, not by the equalized appeal of all, but by their falling into relative place before you in a hierarchy of right.

The process of thought indeed which Professor Royce commends to us, viz. of merging our separate selves, of turning our *relations* to other minds into *fusion* with them, and losing our finite being in the life of one Universal Will, conducts us, I should say, right away from every possibility of Morals, instead of giving us the key of entrance to them. By attempting to erase from the world its highest fact,—the existence of Personalities, as distinct creative centres, with individualized reason and choice,—it removes the conditions of ethical obligation, and treats its enthusiasm as an illusion of the human childhood. Its professed end is unification of life, not harmonious differentiation of excellence; in forgetfulness of the certain fact that, even if it were possible for individual agents to melt themselves into a single being, neither they, nor the 'One Universal Will' compounded out of them, could have the slightest power to withdraw our moral interest from the impassioned drama of *personal* intelligence and character. Such suppression of individuality in homage to an 'impersonal' social organism is a relapse into the ruder tribal life, out of which personality is evolved as the higher stage, with its noble characteristics of inalienable trust and imperative Duty. *This* emphatically it is, this sense of 'other life which is *not* as my life,' which supplies the 'positive' contents of all moral affections and righteous action, and quickens us with fervours of admiration and reverence; while the common pressure of the circumambient 'Universal Will' is but the negative restraint or regulative condition, prescribing the limits within which the free soul is to find and work out what is given it to do In the 'realizing' process therefore, which is said to pro-

mise unification of wills, I cannot acknowledge anything tantamount to 'moral insight.'

Suppose however that the 'instability' and 'conflict' of aims were removed by mutual 'realization' of wills, and that the resulting 'ideal,' in thus attaining unity, *eo ipso* became 'moral' and was identical with *the Right*; is this enough for the ends of character, and the strength of life? For inward harmony perhaps it may suffice; but Professor Royce remembers that in this inward life we feel ourselves face to face with the world's outward reality; and that it must make a vast difference to us, what the behaviour of that reality may be towards the visions which we chase. He admits that 'our religious consciousness wants support in our poor efforts to do right'; that 'we want to know that when we do right, we are not alone; that there is *something outside of us* that harmonizes with our moral efforts by being itself in some way moral'; either 'as a person or a tendency,' the former to give sustaining sympathy with righteousness, the latter to 'make for it' by a blind drift of force. He therefore sets out in search of some answer to this natural need; ready to accept the best that he can honestly find; but resolved to dress up no illusions and be imposed upon by no evasions. The pure love of truth which animates his critical enquiry claims emphatic recognition; so far as intellectual justice is at the command of will, the author administers it with the utmost simplicity and good faith. If ever he does wrong to a theory which he condemns, it is that he brings to philosophy, as we all must, some involuntary predisposition. Entering it from the midst of the Hegelian *Zeitgeist*, and passing through it under the spell of Faust and Mephistopheles, he unconsciously works with canons of judgment by no means secure, and applies them to a world seen through disturbing media and discolouring lights. He makes indeed tender allowance for the simple souls that can still look on the evolution of things as something Divine; but with so condescending or even super-

cilious an air, as to imply rather a repression of impatience than a 'realizing' appreciation.

The general result of his criticism directed upon all theories of 'the world as a heap of powers,' i.e. of its phenomena as effects, is entirely negative: they supply the history of nature and of man with no religious significance. Beginning with the scientific conception of natural phenomena as subject to definable laws, themselves resolvable into wider generalizations, ascending in their higher stages towards a single formula, whence all the changes in time might be deduced and predicted, the author looks in vain for any religious meaning in such a system of 'dead mathematical facts.' It is said indeed to be found in the law of progressive evolution which runs through them, and makes the future of living beings better than the past; but the interpreters of that law themselves explain it as a transient oscillation of rising and falling temperature, which, as it has already spent itself upon the moon, will at last condense the solar system into a mass of darkness and of death. And if, in a universe made up of such dreary periodicities, it is hard to read anything Divine, still less contentment can we feel in a progress assumed to be infinite, yet, after a past eternity of work, leaving the world still under the load of ills which make it sad. What trust can we place in an everlasting power 'that makes for righteousness,' and yet has brought us no nearer to it than we are now? Hence, the author concludes, in our search for the 'moral worth' of the world, we must look, not to its history through Time, as it moves on in act and change, but to its timeless entity; to what it *really is*, and not to what it seems to do. 'That which changes not, wherein is no variableness, neither shadow of turning, must give us the real religious truth upon which all else will depend[1].' I own myself unable to conceive 'what moral worth' there can 'always be in the world,' irrespective of all that happens in it. A crystallized existence, whose contents always

[1] Royce's Religious Aspect of Philosophy, p. 251.

are and never stir, I cannot invest with an ethical constitution. 'Moral worth' surely has no meaning beyond the sphere of voluntary agency: it is a predicate only of what is flung by Will upon the theatre of time; and to close that theatre against it is to refuse it life.

It is obvious that a writer whose 'ideal' can put up with nothing 'historical' and can live only outside the bounds of change, must be impartially disaffected towards all speculative efforts to conceive the origin and interpret the development of the natural order to which we belong. Turning from the mathematical conceptions of mechanical Physics to the monistic hypotheses which have re-edited their book of Genesis from the time of Leibniz to that of Clifford and Haeckel, Professor Royce easily sweeps them from the field, by simply re-loading the same batteries of argument. With atoms 'potentially' psychical and actually material, or *vice versâ*, you can of course fetch up anything you like, minimizing or maximizing the conscious or thinking function *ad libitum*, and can find room in space for all grades of being, from infinite Reason to the slough of decaying organisms. But if infinitesimal bits of incipient consciousness can add themselves up into the highest Mind, they can take themselves to pieces into the lowest Matter; and we are but in a scene where gods and men come and go like the spring and autumn leaves. Or, if you place the process at the disposal of a prior Universal Reason, what is the need that sinks it from its perfection to the borders of unconsciousness, to begin again to be what it already is? and in its quest of the higher stage, why spend an eternity in lingering on the lower? Whence this circuitous labour in the creative Reason for approaching a perfection which is inherent and unresisted in itself? If the world is the manifestation of infinite Mind, it can be no process of growth or of endless cycles of growth: 'the Eternal One is always at the goal,' and can never be where there is any wrong or error to be banished or transcended.

The philosopher who has thus committed himself to an absolute and motionless ideal cannot be expected to find any solution of the problem of evil in the moralist's idea of a probationary Freewill. He listens to no such plea. It is enough for him that failure, misery and wrong can never slip past the flaming sword of prohibition, unless through defect of will or defect of power in the eternal Good. Come whence they may, they are foreign to the infinitely Perfect 'with whom no evil dwells.' On similar grounds, the Theist's recognition of intellectual purpose in the structure and drama of created natures is rejected as a puerile imagination; implying the presence of material conditions and tools as external data to the all-comprehending One. This whole group of criticisms will come under review hereafter. I do but describe them here, as the crowning feature of Professor Royce's doctrine on its negative side. By way of prelude to his religious theory, he clears out of his path, as having nothing to say to him on sacred things, the whole phenomenal world, physical and human, that falls under Law and betakes itself to the category of Causality; and, stopping his ears to its confused and dissonant voices, he steals into the midnight silence, and lifts his eye to the dome of Infinitude to see what he can decipher of the Eternal.

It is from the station, and through the lens, of the Idealist, that his survey is made, and his interpretation devised. He knows nothing but his own ideas; and his knowing is only another idea added on to them: both are facts within his consciousness; one of them the object of the other, but neither of them beyond the enclosure of the home phenomena. Our author however does not rest permanently in this initial position of subjective idealism: for he insists that, if that were all, error,—the most certain of human facts,—would be impossible. Consisting as it does in disagreement between a judgment and the thing judged, how could it exist if both were ideas co-present in ourselves? What do we mean in affirming

their agreement but that to our consciousness they are alike? What then is the disagreement or unlikeness of which we are unconscious? for, except as affections of consciousness, there is no shred of fact or being in them. If, as our ideas, a possible subject and predicate shall disagree, it is we that feel it, and in asserting it can say nothing but the truth. Unless truth and error are to be replaced by mere resemblance and difference of ideas, such as may belong to the consistency and contrasts of a dream, some escape must be found from 'total relativity,' into a reality beyond consciousness, and available as measuring its worth. To such reality Berkeley found his way by one path; our author explores another.

The reasoning of the former is well known. The states of feeling and idea which form the thread of my experience rise up within me unbidden and are no work of mine. They extort from me the question, 'Whence are they?' The first answer, on which my instinct of causality hastily seizes, says, 'they are delivered to you by the perceptible objects which occupy and animate the space around you, and to which is entrusted the function of educating your senses and opening your understanding to the laws and constitution of the world.' These educating media however have no more *put themselves* there, and determined what they shall do to me when entering on their work, than have my sensible impressions turned up by self-origination. They too demand their causality; and can have it only in the infinite Mind which is the Cause of causes and the Fount of thought. But if so, what does His agency gain by devolution on a material intermediary system which does nothing but transmit it, and serves no purpose unless it be to hide its author from unawakened eyes? Remove out of the way this fictitious delegation of power, and nothing is lost. All finite minds are but left alone with the Infinite, to be taught immediately by his method, disciplined by his laws, and drawn into communion with his spirit. The inference therefore is direct, that 'there is

an Omnipresent Eternal Mind, which knows and comprehends all things, and exhibits them to our view in such a manner, and according to such rules as he himself hath ordained, and are by us termed *laws of nature*[1].'

To break the bounds of subjective Idealism on this track was rendered impossible to Professor Royce by his repudiation of the category of causality, as absolutely inapplicable to transcendental thought and religious use. He betakes himself instead to the following inference from the assumed possibility of error: the existence of error involves the existence of truth, in relation to which alone it declares itself to be error. Truth is true thought, the apprehension of reality. But we, as subjectively limited to our own ideas, and unable to compare them with anything beyond, are placed out of reach of this, in common with all created minds. There must therefore be, as seat of truth, a universal 'containing mind,' the measure of all thought. In the author's words, 'the agreement or the disagreement of my judgments with their intended objects exists and has meaning for an actual thought, a consciousness, to which both these related terms are present, viz. both the judgment and the object with which it is to agree[2].' This thesis, copiously argued and illustrated, is the author's warrant for finding his sole reality in an 'all-inclusive thought,' 'the one concept of the universe, which constitutes the Divine mind, wherein all the facts of possible experience are comprehended and reduced to perfect unity[3],' and variously called 'the Right,' 'the Ideal,' 'the Absolute' mind, 'the Infinite thought,' 'the Judge,' 'the All-knower,' 'the Seer,' 'the All-Enfolder.' The relation of this omniscient to human intelligence is thus presented: 'as my thought at any time, and however engaged, combines several fragmentary thoughts into the unity of one conscious moment, so, we affirm, does the

[1] Dialogues between Hylas and Philonous, iii. Cf. Royce, pp. 340, 341.

[2] Royce, p. 377.

[3] P. 463.

universal thought combine the thoughts of all of us into an absolute unity of thought, together with all the objects and all the thoughts about those objects that are, or have been, or will be, or can be, in the universe. This Universal Thought is what we have ventured, for the sake of convenience, to call God [1].' As the being thus revealed is introduced simply to complete the theory of knowledge and save the distinction between truth and error, he is identified with pure cognition, and has infinitude only in the intellectual dimension: his universal consciousness holding 'all the powers as *necessary facts* in the infinite Thought [2],' but unconcerned with any of them: they are not his, except to look at. He is all insight, without agency.

With sincere admiration for Professor Royce's 'critique' as a feat of intellectual gymnastic, I am unable to accompany him to his new base of religious philosophy, or acquiesce in his despair of the ground which he abandons. His leap out of his subjective idealism to the all-containing Reason as the complementary reality cannot, I believe, be made good. The existence of error no doubt implies some *reality* which is misconceived, and which, to better intelligence, might become rightly conceived. But it does not imply the presence of such intelligence, therefore not the existence of *truth*, which is *apprehended reality*. Surely a fallible percipient may sit before an object of perception, and by missing some of its marks, may carry off a wrong concept of it, without anybody, on that account, having a right one. And the same observer, returning to the object, may discover the misfit of his old concept to his new percept, and exchange his error for the truth; and this possibility of agreement or disagreement of idea with fact,—a possibility incident to every finite intelligence, is all that is needed to ground the distinction between false and true. Never, surely, was a more wonderful *a priori* necessity discovered, than that, because one mind is

[1] Pp. 475, 476. [2] P. 477.

ignorant, there must be another that knows. If our errors are to be our only security for the existence of Omniscient mind, the Divine light of life is near its final eclipse. Again and again philosophers have looked with more or less of awe upon the intelligence of Man and the marvellous range of truth through which it is permitted to expatiate; and have accepted this finite manifestation of Reason as a sample and pledge of an Infinite fountain of intellectual light that for ever feeds the lesser fires of thought. But it is a new thing to learn that our blindness is the proof of eternal vision, and our illusions the guarantee of unerring Mind that knows them as facts, but intermeddles not.

Not wishing however to stop up any path which can lead reflecting men to the recognition of an omnipresent Reason, I refrain from further critical exception to this affirmative part of our author's theory. My purpose is, not to disturb the intellectual predicates of his 'One universal *Mind*,' but to reclaim the moral predicates of the One supreme *Will*. I content myself therefore with a few words of protest against the refusal to admit the 'category of causality' and the 'world of powers,' that is, the entire phenomenal universe, into the study of the religious problem.

(1) You cannot, if you would, cut away and cast off, the *story* and drama of the world, as acted out in Time, from its existence as transcendental and eternal. They are two correlates of one thought, and have no significance apart. If you could blot out and forget the life and movement of the scene, the whole contents of your object would be gone, and nothing be left but a metaphysic blank of empty possibility. To condemn me to attend only to what always is and never happens is to hang me up alone in infinite space to look out for perfection.

(2) If compliance with the demand were possible, it would forfeit all moral ideas and possibilities on the way to your religion: for they have no meaning and no home but on the field of action and as directors of causation. And similarly,

when your goal is reached, you find there a clear 'Seer,' cognizant of facts, but indifferent to them: pure thought, without character, without affection, without will: unmoral intelligence of what is.

(3) In thus defining the supreme ideal, you set Reason above Righteousness; and *that*, not by including Righteousness in it, but by dispensing (through denial of Will) with the very possibility of Righteousness. Whatever 'religious significance' flows into life from such a faith is for the pure Student or Philosopher alone, and has no entrance into the experience of man as actor and as sufferer.

(4) If Religion has but this one thing to affirm,—'We know only that the highest truth is already attained from all eternity in the Infinite Thought, and that for that thought the victory that overcometh the world is once for all won[1]': if it has no concern with the working of such natural laws as the conservation of physical forces, the evolution of life, the dissipation of energy, or those which determine the rise and fall of nations, the relations of suffering and sin, the conflicts of passion and character, but stands aloof from all 'the powers in the world': if it has nothing to say 'about individual immortality, nothing about any endless future progress of our species, nothing about the certainty that what men call from without goodness must empirically triumph just here in this little world about us[1]': then its speech is thin, and its silence terrible; the one, almost lost in the infinite through which it comes; the other, with its awful weight, crushing us into despair. What is to become of the problems with which it declines to deal? Are they to lie dead before us? Or, if we take them up, are we expected to handle them as we should dissect a corpse, with all the tender reverence gone which guides and lightens the operator's touch of the thrilling nerves of life? Do they involve no moral issues? Do they trench upon no venerating affections? Can the pessimism and cynicism into which, it is admitted, some of their possible solutions may

[1] Royce, . 478.

plunge me, co-exist with that calm vision of infinite contemplative intellect which constitutes the surviving Religion? I cannot believe it: this meagre remnant of metaphysical idealism will disappear in the devouring confusion of scorn, compassion and dismay, which ensues when the enigmas of humanity are supposed to be indifferent to God and abandoned to blind powers.

These reasons will at least explain my refusal to strike out, from the treatment of Theism, the whole chapter which deals with the origin and tendency of natural and human affairs. The pathetic weight of difficulty and suspense with which that chapter is overcharged I do not lightly estimate: but I would rather bear its burden for ever, or lay it down in simple trust, than expel from it all that is Divine, and freeze the Object of Religion into a crystalline infinitude of Thought that never moves or melts. The particular doubts, the alleged contradictions, which meet us when we try to take up the woes and wrongs of life into any sacred system, will, one by one, be taken into account as we proceed. As a prelude to this, I am here content to show that they are not, *in limine*, to be banished, by a metaphysical nonsuit, from a hearing in the court.

Reverting then to the starting-point of this digression, we rest on the position, that power is known to us exclusively by our own exercise of it, not in the mere muscular delivery of an act, but in the internal initiation or direction of it; that in our intuitive belief of causality we mean, that all phenomena, as such, issue from power which is not phenomenal: that each phenomenon is determined to be *this* and not *that*, by an act of will, immediate or mediate: and that, in thinking of causation, we are absolutely limited to the one type known to us: and so, behind every event, whatever its seat and whatever its form, must post, near or far, the same idea, taken from our own voluntary activity. This, it is plain, is tantamount to saying, that all which happens in nature has One kind of cause, and that cause a Will like ours; and that the universe of originated things is the pro-

duct of a supreme Mind. And precisely thus, by no less immediate a step, are we carried, by the causal intuition, to the first truth of Religion.

§ 3. *Will and Modes of Force.*

The study of force or energy (for the present purpose it is needless to distinguish them) from the physical end does not at first seem to agree in its results with the psychological analysis of its meaning; for the text-books of science speak of a plurality of forces, and enumerate them as objects of separate investigation, and formulate their laws, in notations which are not interchangeable. If, however, we compare the more recent treatises with the older, we find a progressive reduction of differences;—sound, light, heat, electricity, magnetism transformed from mere qualitative distinctions into varieties of motion; chemistry invading the astronomer's observatory and aspiring to analyse the sun and stars; a physiological calculus devised to express the intensities of sensation and the velocity of its transmission; and the doctrine advanced, that the several kinds of force are capable of passing into each other, and in their apparent contrast are only masks of the same. Far as this doctrine is from being yet thoroughly established, it serves as an index pointing in the direction of future discovery, and foreshowing as its goal the fusion of all forces into one homogeneous power; establishing thus at least a numerical conformity between physics and psychology.

But then comes the other question, how can we work out, with a single cause, an adequate explanation of the most diversified effects? Homogeneous power will account for nothing in particular, because accounting for all things alike; or, to use the neat scholastic phrase, it will account for their *existence*, but not for their *essence*. If we refer everything to Divine Will, we are met by the same difficulty which the Necessarian urges when we claim for the human will a command of two directions, either A or B: a power, he says,

which may run down either line, does not explain why the one is taken and the other left, and when we ask for a *cause*, this is precisely what we want to know; and to answer us, not with the deciding fact which determines the actual phenomenon and shuts the door on the remaining possibilities, but with the force which embraces them all alike, is to tell us nothing. This defect, it would seem, must always attach to a dynamical theory of causation. If to the question, 'What made the temple of Dagon fall?' I reply, 'The force of gravitation,' I name what also made it stand; your enquiry being, 'What turned its standing into falling?' it is not met till I say, 'Samson pulled the pillars down.' It will be found that every such question carries an implied alternative,—'why was it *this* rather than *that*?' It is the *difference* between two possible realizations which we require to have explained; and the scale will always be turned by a *phenomenon*, the entrance of something which overthrows an equilibrium, or the withdrawal of something which preserves it, and a consequent movement in a definite direction. I hear, for instance, that Captain H. is dead, and apply to you for an explanation. If you say, 'his ship was caught in the cyclone,' you refer the fact to his being in this place rather than that. If you say, 'he would not take to the boat with the mate and passengers,' you tell me why, others being saved, he was lost. If you say, 'he was washed overboard before the ship foundered,' you explain his meeting death in this mode rather than that. If you say, 'he was sixty years of age and could not swim to the rock like the rest,' you tell me why the same external conditions were, in different cases, attended by different results. If you say, 'he was an organised being and had to come to an end some time,' you distinguish his fate from that of a fairy or an angel. In every case the enquirer is supposed to have an alternative in his view; and the reply selects the incident which excludes the one possibility and gives the advantage to the other. No one, then, can be in a condition to reply, who cannot lay his finger on the one fact which makes the difference;

and this can be found only in the series of concurrent phenomena which meet upon the point. Find there the antecedent which is known to be the invariable precursor of the event in question, and in naming this you set curiosity at rest. Say that you saw the lightning, and the clap of thunder is explained. Here, then, is an advantage, it would seem, in the phenomenal theory of causality over the dynamical; it is discriminative, and gives a reason for one thing happening rather than another; whilst the other, deriving everything from a homogeneous source, leaves all differentiation in the dark. Yet, curiously enough, we have seen that in the phenomenal theory there is involved no idea of causality at all. If events were perfectly loose from one another, while preserving their time-order as at present, so that each prior served as a premonitory symptom of what was coming, that is, if there were only laws and no causes, the very same information might be given to the curiosity of enquirers. So that causal questions, which are left unanswered by a true dynamic doctrine, are successfully disposed of by mere chronological relations, that might be there, though there were only uniformity without cause. Is it possible to relieve this paradox? Let us see whether any light can be thrown upon it by tracing the natural history of the causal idea in its principal stages.

In conformity with the primitive intuition 'everything that begins to exist is put forth by a will-directed power,' all nature is at first alive; hardly distinguished in this respect from the men and creatures that move among the trees and by the streams, and in whom the animation of the world does but culminate. The very contrast, at last so striking, between the 'articulate speaking' race and the dumbness of the scene around, would not be strongly marked in the first efforts of feeling to make signs for itself; and the blending of man with nature,—not indeed by a conscious entering of sympathy, but by an unconscious absence of detachment,—would exceed any measure which we can now conceive. Every conspicuous change on the earth or in the heavens,

or in the lot of those around him, would look at him with fierce or gentle eyes, terrifying him as with anger, or soothing him as with sympathy: the swollen stream that sweeps his hut away, the riven tree that falls and kills his child, being the messages of retributory power; the happy season and the fortunate chace, the expressions of favouring will. And this would be to him the master-key of the world, the grand difference among its events,—what were the *volitions* that spoke from behind them? were they against him? or were they for him? If we suppose him (as with preponderating probability we may) to be a virtual monotheist in his conception, his only philosophy, could he shape it into expression, would be, that the great Will looked through the light and dark in changing moods, and *determined itself* to now this and now that, for the purpose of the hour. Each moving event would have its own volition, just as a simple but narrow piety still sees special providences and evident judgments in exceptional or even ordinary incidents of life. And the sole classification of phenomena would follow the resemblances of volition; which would themselves be no more than two, according as they brought good or evil to man, and spake of a power propitious or adverse. In other words, all that happens would be grouped according to its *feel*; and whatever was felt alike would be referred to a similar power, or exercise of Will. Human sensibility makes the first tentative in classification, and puts together things of like drift (Zweck).

But this state of things cannot continue. For, quite another grouping is forced upon the experience of men. Perception contradicts sensibility. Judged by their avenging pang, the flood, the hurricane, the bolt of fire, are all of the same kind, gestures of the angry God, differing only as his frown from his voice, or his right arm from his left. But judged by their aspect as objects of perception, they are of very different kinds: they speak to separate senses, the ear, the eye, the pressure on the limbs; and when thrown into order by these relations, divide

themselves into the distinct elements, water, air, and light. Can each of these then be referred to one single act of God, and charged upon a motive of favour or of wrath? It is impossible. For the water which lays waste the wintry fields will irrigate and enrich the summer grain; the wind which rages in the trees to-day will caress and play with them to-morrow; the light does not always wander, and flash, and strike, but, keeping at home in sun and moon to bear their messages, sets the earth aglow with life, or, looking through starry eyes, holds watch over it by night. And so, things alike in their drift part in their looks; and things alike in their looks part in their drift. The question therefore arises, which of the two orders introduces us to the units of Divine volition? Does that volition change with every phenomenon that plays with different effect on our sensibility, and rise and sink with the undulations of joy and grief? Can we count the numbers of his will by the reckoning of our own vicissitudes? Or does his fiat divide itself according to the visible elements and outward resemblances of things, at one moment, 'let there be light,' at another, 'let there be air,' at a third, 'let there be life'? Here in its cradle lies a momentous problem, whether the successions of history or the structure of nature more truly give the order of the Divine mind. The answer, always given at first by inward feeling, goes over inevitably to the other side, and falls in with the arrangements of outward observation. As the mind's eye learns to take a wider sweep, the vast and stately universe gains on our small life, and the supreme Ruler is seen to have something else to do than to move with our tides, and work the All by their ebb and flow. The same act or object producing mixed or even opposite effects on human feeling,—as the plague which prostrates the criminal may also carry off the saint that tends him,—it cannot be for either of these ends, but must come from some thought to which these are incidental; and we must pass behind them for its source. We are thus driven to

seek a separate significance for each group of phenomena similar *in look*, however different their *feel*, that is, to construe every law of nature into a single thought or unit of volition. It is not that the significance is killed out and abolished from the phenomena; but that it shifts its distribution, and is sought in new groupings and by a different rule.

But this new rule changes the whole interior view of the Divine Agency; replacing multifarious and fluctuating impulse *pro re nata* by a few great lines of purpose, each curving round and embracing innumerable particulars, and all forming sections of a universal plan. Every law represents *one thought* and is the explicit unfolding of *one comprehensive and standing volition*; it constitutes therefore a single *genus of power*, which will not swerve till all its contents be delivered. In relation to its origin, it is still an act of Will, settling what was indeterminate before; in relation to its effects, it is a *dynamic constant*, an invariable necessity, and, when we look away from its source, a *force of nature* which can be depended upon to lend itself to our computation. What in one aspect is a *Divine idea* in another is a *natural force*; and it is simply by forgetting the upper relation and shutting our attention up with the lower, that we pass from the free religious conception to the ministrative and scientific. Further; since now the proximate object of Divine choice is seen to be always a general law and not the particular phenomena except as comprised in its budget of effects, of the *differences* among these phenomena there is no longer any account; they are all upon the same footing, emanations from the same act as the fountain head; and the question arises, how is it that the same αἰτία turns out mixed results, now calm, now stern, now life, now death? We used to account for such variations by a change of will; but now, confined within the limits of identical purpose, we have to look out for a new explanation. The force being given, what is it that determines the phenomenon to happen so and so, and not

otherwise? There are two possible ways of answering this question.

It might be said, a Dynamic act, a causal volition, cannot be self-contained: were it even movement pure and simple, it must move something and have space to move in; it must be directed upon some *object*, on which it impinges, and which it affects or modifies. This indispensable *datum* will necessarily have some voice in the effect, and by its nature and constitution will impose limits on the possible achievements of the power. However little you allow to it short of absolute vacuity, there will be *some* variations which it shuts out; and it will therefore account for those not being on the list of realizations. To this assumption of a primordial necessity, or conditioning matter, Plato resorts for an explanation of the imperfection of things; between the Divine ideals as they are in heaven and as they appear on earth there is an inevitable interval; and the Creator could only make the universe as near to his own thought as this condition allowed. The actual phenomena having thus two factors, the second would take charge of whatever the first left indeterminate.

But without resorting to a dualism which seems to involve the eternity of matter, we may find our answer on undisputed ground. Even if the first dynamic act, or causal volition, took place *in vacuo*, the second would find the first already there and would no longer have the field to itself; in the course of their histories they might meet and cross: like two systems of undulations in unequal time upon the same fluid, they would variously modify each other, the swifter overtaking the slower, now adding itself on to the crest of the wave, and now subtracting itself from the hollow. A third and a fourth law, launched into the same field, would multiply the variations; the whole co-existing set furnishing mutually modifying influences. The universe thus constituted would be a vast assemblage of powers, each yielding its own series of effects, yet subject to the mingling encounter of all the

rest; and the actual phenomena would be the resultant arising at the intersection of the crossing lines. The form of each change would be due, not simply to its own generic law, but, in its distinctive character, to the concomitant agencies which entered as factors into the equilibrium of the moment. We thus gain the idea of the *conditions* of an event, as supplementary to its *cause*,—the *ξυναιτίαι* which surround the proper *αἰτία*, which qualify its effect, and 'without which the cause could not exercise its causality[1].' And, as attention may fix at will on any one of the forces subscribing to the result, and shift from this to that, we can see how possible it is to treat them all as on a par, and, abolishing any pre-eminence among them, throw them into a democracy of 'conditions' and call them collectively the 'cause.' This is the principle of the well-known definition of cause which Mr. J. S. Mill has borrowed from Hobbes, and placed in the ascendant by his great authority[2].

It deserves remark however that the two accounts of 'Cause,' viz. as the 'invariable antecedent' of the Effect, and as the 'aggregate of its conditions,' are not interchangeable; the former being founded on the successional doctrine of causation, which wants a prior phenomenon; the latter, on the dynamic doctrine, which looks out for a synchronous balance of forces in the crisis of being disturbed. If the essence of the causal relation lies in the *Time-order*, then 'invariable antecedent' (by which, I suppose, everyone will understand an *event that happens*) is a very proper synonym for 'Cause.' But the phrase is plainly inapplicable to a cluster of 'conditions,' largely consisting of quiescent attitudes and relations of things, and including the non-phenomenal elements of space and time. When we speak of the 'condition' of a change, we are thinking in terms of the doctrine of equilibrium. We

[1] Plato, Tim. 46 D.

[2] Mill's System of Logic, B. III, chap. v, § 3; Hobbes' Elements of Philosophy, Part I, chap. vi, § 10; Part II. chap. ix, § 3; Molesworth, vol. i, pp. 77, 122.

first collect, as the statical ground of the common effect, the components of the momentary position which balance one another and keep their forces in the potential state; and then we fix upon the completing phenomenon which, on entering, breaks the equilibrium and, by releasing a portion of kinetic energy, decides the suspended alternative. This determining circumstance is also one of the conditions, and may long lurk among them before we distinguish it from the rest; but when we detect its peculiarity, we single it out, *κατ' ἐξοχήν*, as Cause; though well aware that the liberated energy must be credited in due measure to the equilibrated conditions as well. When we take the dynamic idea as the key of the causal relation, it is at our option either, with Hobbes, to mass all the conditions together, both potential and kinetic, under shelter of the word 'Cause,' or, as is more usual, to reserve the term for the latter alone, and allow to the former exclusive possession of the word 'conditions.' And as the potential conditions wait for the interposition of the kinetic to give birth to the effect, it is easy to see how the Time-order of 'antecedent and consequent' enters as a concurrent *sign* of causality, and so may come to be mistaken for it. But when we take the formula of time-succession as our only key, we are limited to a linear track, and are encumbered by a number of synchronous conditions lying all around, for which we have no provision within our narrow category of *ante—post.*

I must here guard this exposition from one inference which its language, if left unqualified, would naturally suggest. The segregation, from among the total conditions, of the particular determinant emphasized as 'Cause,' has been attributed to its kinetic character, as contrasted with the simply potential function of the rest. This does not mean that it is selected for any objective *activity* it has, as opposed to an objective *passivity* in its copartners; but merely, that it is the circumstance which turns the scale of the alternative present to our mind and puts one branch

of it out of the question. If a cause is that which settles a doubt between *this* and *that*, conceived as alike possible, I cannot point it out to you in any particular case, unless I know the two possibles assumed in your thought. On learning them, I may perhaps be able to show you that one of them is intrinsically *not* possible at all; and then, the other will not have to come into being, but will stand as actual without help of extraneous energy. Or again, if you ask me the cause of the earth's elliptic orbit, I must learn, before I answer, what else you are thinking that its line of motion might be. Should your meaning be 'what keeps it curving round, instead of making straight for the Sun?' I shall of course refer you to an original rectilinear projectile force. Should your idea, on the other hand, be 'What prevents it from flying off at a tangent into infinite space?' I shall name its gravitation to the solar mass. Here there are no passive conditions; and the answers are given by adding on one kinetic energy to another. Again, why did the lightning strike the vicarage and spare the church? Because the former had not a conductor and the latter had. Here, one condition named is negative, and the other potential. Why did the avalanche not touch the chalet, yet overwhelm the inn that was further off? Because it was flung at an angle that overshot the one and aimed direct at the other. Here, the difference is made by a purely passive interval. Once more; why is that post in the lake to which I fasten my boat, though straight in reality, crooked in appearance? Because, while its *feel* to the touch is uniform, its image to the eye is broken by refraction. Here, the answer invokes a new element, that changes the direction of motion, and crosses a tactual by an optical law.

In short, when you ask for a cause, it is that your preconception of a subsisting posture of things has been disturbed by a surprise; and you want an account of your breach of expectation. Perhaps your preconception was incorrect; and then, with the error, the surprise will dis-

appear. But if you have set things as they were, in their right adjustment, their equilibrium may be subverted in several ways; just as readily by a subtraction or decrease of any of their component forces as by the addition of a new one; and the only thing certain is that some *plus* or *minus* quantity has found its way into or out of one side of the equation, without equivalent modification of the other; and this difference, be it positive or negative, will give you the answer which you seek. Hence the various forms which that answer may take. If we remember that the only power required for a Cause is the power of 'making a difference,' and that, for this, inertness may be quite as efficacious as energy, we shall not wonder that passive conditions are so often determinants of phenomena. It is only the physical counterpart of the familiar moral fact, that negligence has as large a crop of consequences as the most strenuous diligence.

Starting then from the intuitive assumption that the non-Ego is the counter-cause to the Ego,—Will *vis-à-vis* to Will,—we are led by an intelligible psychological process first to shift the unit of objective volition from each particular change affecting us to the few great natural forces under which those multitudinous vicissitudes are summed up; and then, under a balanced assemblage of these forces, to look on the single condition which ends the balance and turns up a phenomenon, as entitled to the name *Cause*. If it *constantly* performs this function in relation to a given phenomenon, it becomes the 'invariable antecedent,' and lands us in a mode of conception accordant with J. S. Mill's.

Natural as this process is, as a piece of psychological history, it clears us from one illusion only by tempting us into another. Into this we are betrayed by an easy inadvertence at the second stage. Among the many concurrent conditions of an event, what makes us pitch upon one distinctively to be called its Cause? It earns the name by being the *differentiating circumstance*, that turns the scale

in favour of the event; and so, by *settling an alternative*, complies with the terms of the definition of 'Cause.' But it only *seems* to do so; for the alternative which it settles is not in Nature, but only in your mind; it is not that, under the conditions really present there, either of two incompatible facts may turn up, but that, for want of complete insight into the conditions present, your calculation yields two answers; and that, as soon as the missing element fills up the lacuna in your knowledge, one of the supposed answers vanishes. That element decides nothing, except for you; it is no agent and makes no choice; it has to be there, just as much as the other conditions, and can, as little as they, pretend to any function of will; it comes according to its rule or law, not of its own making, or even given to consciousness. It has won its name therefore by a piece of successful acting, and imposes upon us by simulating the determinant action of a living Will. But it is not really a cause at all as the Ego is a cause; and in reading causality into it we repeat, in modified form, the mistake of the childhood of humanity in treating the passing incidents of human ill and good as visitations of judgment and reward. The consciousness and knowledge of causality, it has been shown, do not arise so long as movement is automatic, but first enter when, on being resisted, we take the matter into our own hands and substitute voluntary self-direction for involuntary drift. Till we reach the power of *initiative*, that is, of determining what is not yet determinate, we have no apprehension of causality; and when we quit this power and pass into the sphere of Necessity, we lose sight of causality again. The very 'invariable antecedence' therefore, which is claimed as an essential mark of a true cause, is in fact a disqualification for that name; and testifies that we are dealing with the contents of a mechanized realm where all successions are predetermined, and neither beginning nor alternative can be. Were the so-called 'antecedent' a true cause, it would not be bound to be 'invariable.' The '*nexus*

naturæ' or law of necessity which ties together the phenomena A and B, divests A as well as B of all originating function, and reduces both to mere links of conduction for some entering and transmitted power; and it is only at the head-quarters of that power that the effectuating causality abides, in virtue of which the phenomena emerge thus and not otherwise. This pre-ordained order, this self-renunciation of creative freedom, constitutes the essential fitness of the world as a theatre for the training of intelligence and character. Unless, in studying the sequences of natural events, we found each customary preliminary to be *constant*, how could we make sure of having hit upon its kind of power, not in a house of call, but in a regular abode, where we may rely on finding it again? For the purpose of just expectation, we must be secured against our dynamical fund, by change of investment, shifting to new fields, and leaving its old neighbourhood 'without effects.' Still, this perceptible and uniform system is but the middle ground, the instrumental term of understanding, between the infinite and the finite freedom which constitute the home of all causality.

Were we wrong then in interpreting the non-Ego as the responding counterpart to the Ego, and reading it by the category of our own self-consciousness? Must we repent of interfusing through it a Will like ours, because it is too steadfast and its ways seem fatalized? By no means. That intuitive apprehension has lost nothing of its validity, but has only developed its contents. The just inference is simply that, in the perceptible course of nature, gazed at from the outside, we have not yet reached the free determining movement of the infinite Will, but only its executive method of carrying out its determination. The visible processes of the natural world bear the same relation to its originating Mind that our linked and co-ordinated organic movements, in accomplishing a purpose decreed, bear to our volitional causality. In both instances they have the *automatic* character of mechanized media, instituted for

the finite nature, self-adopted by the Infinite, to deliver into realization the messages of creative thought. Whoever shuts up his contemplation within this sphere, as if it were the All floating in vacancy, has left behind the very possibility of initiation, and precluded himself from seeing it even though it be there. Standing in the midst of laws which he prejudges to have been never legislated, he necessarily, with Comte, pronounces all search for causes to be vain. And, in this dictum, the French philosopher planted himself, I must think, on much firmer and clearer ground than that which, with the same theory, J. S. Mill took up, in first misconstruing causality into invariable sequence, and then reaping the illusory profit of this wrong, by treating the interpretation of laws as equivalent to the discovery of causes. No satisfactory apology for this false worship of 'antecedents' is presented by accepting for them the humbler title of '*second causes*,' and claiming this much for them as *deputed media* of the primary Will. Precisely because they are 'media,' they cannot be 'causes'; and if they are 'deputed,' they come after volition, whereas a 'Cause' must come before it. By the very terms of the apology, they only execute causality, and therefore do not exercise it. The sole possible 'second causes' are *created minds*, in which there re-appears, on the finite scale, the self-determining power, in presence of alternative possibilities, which is the essence of the supreme Will. Nor is there any need, as will hereafter be shown, for setting up 'deputies' at all, as objects or natures interposed between the Divine purpose and its accomplishment; as if the Primal Agent were mechanical and needed tools, instead of the Immanent and Living Spirit which is all in all.

By the Education of nature itself, then, the human mind is led over the whole interval between its first reading of Divine motives in every thing, and its latest version of scientific causation, without being called on to part from the essence of its original faith. From Will at the fountain-head not a single thing is wrested at any stage of the pro-

cess; only, the inner acts of that will are thrown into a new order, are reduced to a few comprehensive heads, and organised into a system of which the sciences are the reflection in little. The emergence from superstition which marks this process consists, not in the *expulsion* of purpose from any scene which it occupied before, but in the substitution of larger purpose for less, of *plan* for *impulse*. And as the primitive power has not been lost on the way, neither has any other been found; so that we are still in presence of the originating Mind, whose organizing thoughts are prototypes of the rules of nature. Were these rules to merge yet more into one another by further generalization, till at last some one formula should embrace them all, we should thus be brought to the genetic idea of the known universe,—the fruitful conception from which the whole is thought out. This supposition, however fascinating to the mathematician, may seem perhaps to take away all plenitude and living variety from the Divine mind, and reduce it to a stately intellectual monotone. But this is an illusion. A true generalization throws nothing away; and however simple its form when the upper limit is reached, the affluence of its contents is not abated; all the differences are implicitly there, as surely as in a single acorn may be involved the forests of a continent in one age and its coal-fields in another. Two lines suffice to express the law of gravitation; but to read it through and through, is to count the masses, and measure the velocities, and sweep along the curves, of every body in the universe. A mind that shuts up a cosmos in a thought gives the supreme ideal of Reason.

Since the dynamic idea reads itself, by easy translation, into the whole phenomenal system of causal language, the resources of the latter are at the command of the former; and the laws of uniform succession and co-existence, by which the scientific observer learns to predict and explain, do not lose this prerogative when construed into acts of will. The homogeneity of their fountain-head does not

prevent the separation of their streams of direction and their various encounter with each other in the windings of their history; and to the differentiation that thus arises appeal may be made, in exactly the same way by one who takes the laws to be conscious thoughts, and by one who deems them only material facts. In application therefore, in the inductive investigation of all causal questions, the two theories are on a par, and will work their problems by the same rules. It is a mistake to suppose that, in a universe governed by one Will, there must be a deficiency of heterogeneity, and therefore an inability to account for the actual differences of events. The limits of possible variety are no narrower when they diverge from an intellectual power, than when they are ramifications of a physical or of none at all. If we cannot understand how a conscious and seeing nature should differentiate itself, and select a definite number of directions among alternative contingencies, still less can we understand this of a nature blind and dead; so that the physical doctrine of the ultimate unity of force is burdened with the same difficulty as the religious doctrine of unity of will. This will be clearly seen, if we follow the mechanical and the volitional theories up to their conceptions of the beginning of things.

Will, it is said, may run upon all roads, and does not, without something further, account for its appearance upon some one path. It may put forth *any* volition; but the question is, 'Why arises *this* rather than *that*?' To this question the determinist gives answer, 'Because the *suggesting motive* is stronger.' The 'motive' is either, the conception of an end in view accordant with the agent's wish; or, the impulse of some instinctive passion. In appealing to this you go behind the will, and look among the mental conditions which surround it; and there you find an element, whose superior 'strength' steps forth into operation, and settles what line the Will shall take. The *power* thus flies off from the will, and falls back upon the

inner relations of the sensibilities and affections; these, being constituted so and so, admit at the next stage only such and such a volition. But here again the same question recurs; why are they thus constituted, when they might have been constituted otherwise? whence this motive's 'strength,' when it might have been weak? Something is needed still to rescue us from this contingency. When we are dealing with the human mind, the determinist is ready with his aid, and says 'the motive owes its ascendency to habit, or to temperament, or to an inherited organization; these being what they are, it could not but dominate.' Only, what hindered them from being different? for them to be so would contradict nothing that we know. The answer does but push us back into another contingent world, where we have to renew the same enquiry. On this track, it is plain, nothing ultimate can ever be reached: we shut the door of each indeterminate chamber, only to open another; and so far as any closing of the problem is concerned, we might as well be at one end of the corridor as at the other. To this process there can be no end, except by simply resolving to stop, and arbitrarily cutting off all further retreat, by setting up a *definite somewhat* to start from, and refusing to say more about it than that, *if* it be so and so, it will explain all that comes after. It is precisely thus that the *atoms* are assigned as the primitive data or raw material of nature. Are they competent to determine the whole posterior cosmos? It is in virtue of certain forms and movements and magnitudes, which rank no higher among possibilities than many others, yet of the exclusive existence of which you refuse to give any account. The determinist therefore cannot finish as he begins. However carefully he coasts along and hugs the shore from headland to headland, and drops the anchor now in this haven and now in that, sooner or later the set of an inevitable wind drives him forth upon interminable seas, without definite line except of an horizon that sails with him as he goes.

If then it is certain that the mechanical theory, at the top of its staircase of necessity, has, like any other, to make the initial step out of the indeterminate on to the determinate, the only question is, at what point is this 'arbitrary' step best taken, and in what form is this transition least unintelligible? In assuming intellectual Will as the given Source, we at least provide something which we know, and which alone *seems* to have precisely what we want, the power of determining the contingent, of selecting among possibles that which shall become actual.

We are told indeed that, under the semblance of freedom, there is here concealed a real psychological necessity: but the assertion rests only on the exigencies of the mechanical doctrine, and is not verified by our self-knowledge: far from admitting that the play of our motives constitutes a necessity and carries off our personality, we are well aware that they are subject to our estimate, and that we choose for ourselves. We are not the theatre, and they the agents; we are the agents, and they, the data of the problems which we solve. This it is which makes us *causes*; that is, beings capable of something more than letting power pass through them as conductors, namely, of excluding *this* and admitting *that*; of something which will for ever oblige us to resort to the analogy of Will, when the question is, 'What shall settle for us between alternative possibilities, and fetch the determinate out of the indeterminate?' Do you repeat that such act of choice is 'an effect without a cause'? That is true, if by 'cause' you mean 'invariable phenomenal antecedent'; but false, if the word denote the power of *making the contingent real*. As a personal decision is felt to explain an act and leave no more to be said, so is an eternal living Will the simplest conception we can form of the Universal Cause, itself uncaused. Displace this conception in favour of uncreated atoms, and do you ask *less* from our gratuitous acceptance? are the preliminary postulates of your deduction, before you prove your first proposition, fewer than

before? On the contrary, you demand as data countless myriads of crystal bricks geometrically indistinguishable, quivering within and flying without, in movements never imparted and never directed, but combining and qualifying one another, and forming the original capital of all the force expended and circulating through the universe. By what rule of science can it be called a modest act, to take for granted all possible velocities and all possible directions, and an unlimited store of bodies identical in size and shape, to move in them? What years of labour and patience are spent in deciphering and resolving a single motion in a single star; for example, the small circle described by the celestial pole around its mean place! Yet here are millions of such facts set up and flung into a definition, without so much as raising any problem at all! to take for granted the law of gravitation or the chemical rules of definite proportion, would be a small *petitio* compared with this. And what is the object of so vast an assumption? Simply to turn the back upon the inevitable step from the indeterminate to the determinate, and present the sublime look of never quitting definite ground. It virtually says, 'We will allow nothing to be possible but that from which the universe must come; as to all else, since it has not turned up, we may presume that it *could not*, and we may safely neglect it and leave it out in the cold; what we want for our journey of deduction we take, and ask no questions.' But, in spite of this ignoring resolve, the 'cold' and dark really remain behind, though you have no eyes in that direction to look into them; and they hide other possibles than those which you allow to pass—'possibles' because no more excluded than yours by any contradiction; nor can you help recognising them, at the moment of denying them; for, while you will not admit any objective Will, to part them from the rest by selection, you perform that very act yourself and *choose* what you want in the interests, not of a universe, but of a theory.

§ 4. *Will and Kinds of Being.*

In counting off each mode of force, as if it were a single creative thought, we have simplified, but by no means adequately solved the problem of the Unit of Divine volition. We have got rid of our first tendency to treat every phenomenon as a separate act,—a tendency which, logically followed out, would give a volition for each drop of rain in a shower, and each pulsation of every heart,—and, by taking a whole law at a sweep, have assimilated our conception of the Supreme Mind to that of a perfect scientific intellect. There are two aspects under which minds of different order will survey the accessible contents of the universe; one, characteristic of the artist temperament, and the other, of the scientific understanding. In the former, the scene before the observer is made up of concrete objects, —trees and rivers, clouds and stars, cattle and men,—each complete in itself and with a story of its own, yet all variously related and, by their mutual play, cast into many a picture and many a drama together. In the latter, every one of these objects falls analytically asunder, and is seen to be made up of numerous properties or functions, e.g. weight, colour, growth, feeling, &c., which are by no means confined to it, but appear no less in innumerable instances: and did not a certain number of these subscribe together and concur at a given point of space, no individual could be set up. It is the business of science to take aside each of these functions in turn, now weight, now colour, &c., and pursue it as a single object of attention through its haunts in Nature, till its law has been found and its conditions enumerated. To the simply perceptive observer, gold is heavy and solid and yellow; to the scientific, gravitation and repulsion and ethereal undulation, &c. modify themselves here into gold, there into carbon, and again into ice, &c. The one conceives the powers by generalization from the objects; the other regards the objects as individualizations of the powers in the course of their

history. When all the properties have been thus separately treated, a new grouping of the world's contents has established itself in the mind. It is not a scene of things, but an assemblage of powers. The units and pluralities have changed places. Instead of each concrete object appearing as a substantive thing with many functions, each function appears as one power contributing to constitute many things: *it* is the *real*; *they* are but the *show-place*. The individual which presses upon sense and imagination is but the phenomenal meeting-point, the transient rendezvous, of permanent and universal powers, which are for ever engaged in building and rebuilding the cosmos. The scientific enquirer therefore visits particular objects of perception, only to keep an appointment with some law which he wishes to interrogate and which he is sure to find at work there. To the Sun, e.g. he goes,—if he be a surveyor, to time and measure a planetary transit; if a physicist, to weigh his mass; if a chemist, to cross-question his spectrum. When he has carried out this mode of conception to its utmost field, he will have abolished things from his thought, and resolved the universe into constituent powers. If I may borrow a logical phrase, he will find its meaning, not in its *denotation or extension*, but in its *connotation or comprehension*.

Now this is precisely the result we obtain when we identify each law, or line of power, with a Divine volition. Gravitation is defined by one act of thought, the luminiferous undulations by another, the electric by a third, &c.; and the whole, when gathered together in system and relation, constitute the engagement and contents which we are thus led to ascribe to the originating mind. If these laws are regarded as not primal, but only differentiations of some higher genus, and we are thrown further back upon an ultimate atomic constitution, then must every defining characteristic of that constitution that might have been otherwise count for a volition; and the first ideas must be reckoned by the number of equations needful for deducing

the world. We are thus certainly carried far enough from our initial tendency to read in every change the signs of favour or of anger. Is it possible that we have been carried *too far*, and that, in losing one error, we have fallen into another? In our flight from the notion of ever-varying impulse or caprice as a motive-cause, we have flung ourselves into a purely intellectual conception of the Divine Will, as eliminating the superfluous terms of the cosmical problem, and defining the elementary relations of the rest: we find ourselves in presence of a Being who *thinks out* the universe; the general laws of which form the method and calculus of his mind. But is this all? Can we rest in the recognition of One who, having chosen his conditions, passes thenceforth into a mathematical intelligence, whose faculties do the work of a calculating machine? Is the world evolved, not only on an intellectual plan, but simply as an intellectual exercise; so that it would be no less adequate to its cause, though its contents were purely physical, and stopped short of its living and moral products? It would in this case be nothing but a work of Art, a play of mental power, whose function is complete in simply being orderly and beautiful. Such a world would comply with *one* of the marks of Will; (1) it would constitute a determinate system selected from indeterminate possibilities. But the other two marks would be absent from it; (2) its independent lines of action would converge upon no *end* beyond themselves, for the sake of which we must conceive them to be; and (3) there could therefore be no subordination of minor ends to major, framing the scheme into a hierarchy of good. And without these, —selection from the many, combination into the one, gradation through the whole,—volitional causation is mutilated of some essential characteristics.

But neither reason nor fact will permit us to remain at this first stage of Will. *Selection* from among contingencies cannot itself be another contingency: it is not an aimless act, and cannot be conceived except as regulated

by some purpose beyond itself; so that, wherever it takes place, we are led to look out for some *end* which is the object of preference. Seeking it among the results of the chosen laws, we should find it, were there only a physical universe around us, in the chief concrete bodies that are born from the confluence of those laws,—the sun, the planets, the seeming sphere of stars,—or the terrestrial elements,—water, air, clouds and land that make up the structure of the earth. On these would our attention fix, as the products which were meant to be, and for the sake of which the natural powers were first sent forth. And thus the universal Will, after having been drawn off into the small group of general laws, returns once more for its contemplated ends to particular things, relatively to which the system of forces is but an appointed *means*. In the mechanical and chemical department of nature, this relation between means and ends is still inchoate and obscure: the objects that look detached can hardly be said to be there on their own account; they derive their importance, not from their isolation, but from their being woven into the tissue of reciprocal interdependence. As soon however as we enter the field of organic existence and, especially, stand amid the tribe of sentient beings, such real individualities are distinctly set up, that it is impossible not to allow each to carry its own end in itself, for the sake of which, as well as to serve the whole, it has been brought upon the scene. This startling phenomenon, of a conscious being, a magical Frankenstein, the reflecting mirror of the world, insists upon its right to be regarded as the crown of nature; and the mere fact that all the prior laws lead up to this, and set it forth as their supreme achievement, on which all their resources are combined, is only otherwise expressed when we say, that sentient creatures constitute the *ends* of terrestrial nature, to which its mechanism and laboratory are subservient as *means*. It is impossible to regard *the lines of natural law as volitional* yet not to regard the living beings arising from their co-ordination *as*

objects contemplated in their institution; and accordingly a philosopher who, with Spinoza, denies the latter and treats as illusory the vestiges of final causation in organic nature, is only consistent in assuming all physical law to be not instituted but eternal, the sole possibility, self-existent and uncontingent as the properties of Space. Laws, selected at one extremity, bring us to objects intended at the other. The act may be *one* in the Divine Mind: for, what we have to separate, the Infinite may blend; but both factors must be there; and in the cosmical development of the thought, they will lie apart in time, and be treated by us, as we stand between and look up and down, the one as the means and the other as the end. And this distribution gives us two units of volition: each law set up is a single means; each type of being which is produced is a single end.

There is, I have said, a third feature in Voluntary action, without which its idea is incomplete: it includes ends within ends, each serving as a means to the ulterior, and subordinated as lesser to greater, or part to whole. I desire, for instance, to see a friend at my house: the letter which I send, to ask him, appears a simple means, but cannot effect its purpose without a long series of intermediate dependencies. To embody my thought, there must be language: to give language to the eye, there must be a visible character for each sound; to spread these characters in order, there must be paper to receive them; to inscribe them on which, there must be pen and ink; to appropriate them to the right person, there must be the folding and address: to present them for transmission, they must be dropped into the pillar; to convey them, must be taken out by the carrier; to be understood, must be delivered and brought under the eye of my friend. The interview itself, which thus comes out as last in this succession, is probably first in another, for it is not held without a purpose; which again enters as an element into larger plans belonging to a whole scheme of life: so that,

in an activity rational and free, there is really nothing isolated and piecemeal, but a hierarchy of innumerable designs, leading up to an all-embracing unity of character. Now when we turn to nature as hitherto described, and ask, among the ends discovered there, *which* of them gives us a unit of Divine volition, we find it similarly impossible to arrest ourselves at any one. The physical elements seem to have accomplished their function, when they turn up the *living form* which transcends themselves; and the *plant* might be regarded as their end, were it not itself subservient to the maintenance of sentient existence. When we enter this new field, the scale of dependence still runs up, the lower organisms ministering to the higher, and homologous relations pervading the whole: so that though each nature has a perfection of its own, worthy of being the object of separate intention, it is snatched away from its independence and claimed as a mere constituent of a larger scheme. At last however we reach the acme of created life in our humanity; in whose rational and moral features, so far surpassing all that precedes, and having no visible summit beyond them, there is some excuse for seeking the ultimate end of the whole system. But even here we are soon driven from our rest; partly by observing, that in all living relations there is a reciprocity, which prevents their being read one way alone, and makes man the *means* of many things and not merely the *end* of all; and partly by discovering, that our ascendency is only *local*, and that, as the earth that bears us is but as a granule in a universe spanned by a web of identical law, so can we pretend to no higher place than that of an intermediary link in an interminable chain of being. The volition therefore which creates the individual we cannot detach from that which determines the kind; or this, again, from that which gives the cognate types; and so on, throughout the whole ascending scale; so that organic nature we can represent only as the object of a scheme of natural history volitions, laterally linked or logically included one with another, as

elements in the tissue of a single plan. Hence, we must qualify our statement that each type of being is a single end. It is so, as having something original in it: it is not so, as having nothing else. An *absolute* end it is not; but a *relative* one it is, comprising within it a new destination, and the provisions for realizing it.

On the whole then we conclude, that the laws of nature are willed as *methods*, and the sentient beings in nature as *ends*; and that, in both instances, the interconnections are so intimate as to baffle our attempt to insulate the units of volition, except provisionally for the needs of our piecemeal mode of conception; and to visit us again with the old problem how to harmonize 'the many and the one,' and to lay out a Timeless act of Mind in the numbers of our human succession. Throughout this discussion I limit myself to relations between God and Nature: and, for the moment, Man is no further included than as he stands on the zoological list. The present conclusions do not apply to him in his moral and spiritual aspects.

§ 5. *Explicit and Implicit Will.*

I have thus far endeavoured to show how causality, dynamically interpreted and identified with Will, both gives us our natural Theism, and at the same time has led, by steps of easy modification, to the scientific conception of distinct forces, and even to the phenomenal maxims of c u ti n which totally forget their dynamic origin; and how, nevertheless, provision may be made, without breach of the original intuition, for placing all the great lines of relation in nature within the diagram of an intellectual plan. Here however a further question arises. We may be *able* to carry out through the universe the idea of Divine purpose; but are we *obliged* to do so? Is it inconceivable that operative power should exist apart from intellectual intention? However true it may be that causality first dawns upon us when we enter upon it ourselves and as-

sume the direction of the energy at our disposal, yet this is but the order of our own thought, and not of things as they are: the power which we take up was there before we discovered it, and was carrying us away as its organ before we turned upon it and made it our servant; and we know it retrospectively as automatic, in the very moment of succeeding to it as voluntary. And until it was thus handed over to us, and a Self arose to take possession of it, its seat was in the not-Self, that is, in the organism of our simply zoological life; and must we not own that, in snatching it thence and setting ourselves over against it as its proprietor, we completed the antithesis between the Ego and the non-Ego, as one between the voluntary and the automatic, instead of between Will within and Will without? Nay, does it not seem that, the more accurately the two terms of this dualism face each other, as microcosm and macrocosm, the less admissible it becomes to insist on intention as the indispensable prefix to force? For, in our own life-experience, it is out of the automatic that Will is born, and that prior term itself belongs to Nature. Moreover, had it continued to run its course, without interference from our personality, it would have left its mark in some form of change; so that without 'final causation' efficiency is not impossible. How then can it be contended, in spite of the priority in us of blind force to will, that it must be posterior to Will in the not-Self?

The question with which we have to do is that of *Causality* in Nature. If *Force* were all that we required for the answer, the involuntary spontaneity offered to us by the objector might fulfil the conditions. But more is demanded of a Cause than that it should do something, i.e. *quidlibet*,—anything, short of nothing. It has to be the determinant of a specific change,—of *this* rather than *that*; and unless it can give a discriminative account of its particular phenomenon, it is no cause. Before blind power can earn that name, it must borrow vision enough to see an end from a beginning, and master geometry enough to

distinguish one direction from another, so as to have some idea what it would be at; then, it will be a determining power or Cause; the meaning of which is simply photographed from the consciousness and idea of Will. Aimless force, force that cannot define its own path, but may fly off in any radius without prejudice to its identity, misses the essence of causality; and to have an aim, to take a selected path, to negative all radii but one, we know to be the function of Will.

Nor is it true that in our own experience we gain the conception of voluntary power by adding something to a prior naked idea of automatic power. On the contrary, the idea of automatic emerges as a residuum, after expelling, as far as we can (that is, simply blotting out of sight) the specialty of Will. The very force of blind impulse in ourselves which we take up and turn from spontaneous to voluntary, we never suppose to be really in the dark and without director of its way; only, the aim which is absent from us is given it by Nature instead, and belongs to the counter-will in place of ours. Hardly should we be able to cut down the conception of will to bare automatism, were it not for the interposed steps by which a determination of ours, once passed, seems to execute itself. My aim may be separated from its organic fulfilment, in time, in place, in person; what I knowingly do *follows* on my intention, is at a certain *distance from* my intention, if only at my finger's ends, and may effectuate itself through *intermediary services*. So far as this is the case, the execution may be seen apart from the intention, the one being here, the other there; and when the voluntary element is out of sight, the residual element is the executive movement isolated; and *that* is what we mean by automatic action. It is a mutilated phenomenon, cut in two by a limitation of our attention to its ulterior half. We call it automatic because, while the cause is kept out of view, we know that the creature itself is not causing it; for then it would be voluntary. The phrase is therefore

merely a disclaimer of causal knowledge, not an assertion of some new kind of cause.

There can therefore be no competition between automatism and Will for the causation of things; for they are respectively *non-causa* and *causa*. However large a proportion of the phenomena of the universe might come under the former head, they would have to resort to the latter for their explanation. Here accordingly we might consistently regard our problem as set at rest. But to cut short the pleading and non-suit the litigants on an *a priori* metaphysical ground might appear like a technical evasion of justice; especially at a time when, in various forms, new attempts have been systematically made to galvanize the 'automatic' idol into some semblance of a πρωταγωνιστής on the proscenium of Nature; and the 'Innate Somnambulism' of Cuvier, the 'Will' of Schopenhauer, the 'Unconscious' of Hartmann, are all pressed into the attack upon the intellectual pretensions of the universe. With a view to an estimate, which shall not seem to be a pre-judgment, of this type of doctrine, it will be necessary to see whether, among natural phenomena in which intention is invisible, the distinctive marks appear of undiscerning spontaneity, or of selecting aim. In conducting such an investigation, we cannot attempt to go the round of Nature and take a census of the symptoms, putting in one list those of a waking, in another those of a sleep-walking world; for who could count the votes in an induction of such impossible vastness? An easier solution is within reach. If *anywhere* in nature beyond our own case, we encounter characteristics which *are possible only to intention*, *so far* we are driven to resort to that full type of Will; and when once found to be there, we cannot limit it to the particular cases on which we have alighted. It is adequate to the whole; while the lower agency breaks down in the midst and throws up the game.

Now it so happens that the problem, whether we can trust the external signs of invisible Will, is already familiar

to us in a narrower field: we have encountered and solved it with regard to the finite causes around us, and have only to extend to this new case our method of dealing with it there. Most of the conduct of our fellow-men we ascribe to minds like our own, acting with conscious purpose. Much of the behaviour of the lower animals we refer to unthinking instinct, resembling our own automatic life. What is the ground of our belief in either case, and of its difference in the two? In both, our inference is strictly anthropomorphic; it is a mere application of the causal principle interpreted as Will: no better or more immediate proof can be given of the existence near us of minds other than our own. Though the assurance thus obtained approaches the highest rank of certainty, it rests on nothing else than the direct rule, checked by no qualification, that all phenomena issue from Will. Whence then the distinction between the two cases before us? At first, there is no distinction; and, in spite of their difference of form, we interpret the lower animals as we interpret our fellows, by our own conscious activity. We direct towards them similar feelings; we administer to them the same kind of treatment; we protect ourselves against them by like safeguards; nor are the animals stripped, in our idea, of their inner humanity and put upon a reduced list, till special evidence has turned up, enforcing a restriction of our original belief. In what does that special evidence consist? Simply in certain interruptions of the analogy between human and animal art; for example, the failure in the latter of any language which fore-announces a purpose; the instant resort of new-born creatures to congenial elements and food which they cannot have pre-conceived, as the duckling runs to the pond, and the new-fledged fly-catcher seizes the insect on the wing; their constructive skill, complete without learning; their provision for ends which they cannot have in view, as for the nourishment and protection of posthumous young. It is long before we can divest these phenomena of their look of *animal intention*;

but at last we can no longer credit the animal with foresight; and then we think of them as similar to our own automatic, yet not objectless, actions, such as the winking of the eyelids, the concurrent movements of the eyes, and the spontaneous retraction of a hurt limb. If this is a true account of our natural logic, the presumption is in favour of a full-bodied and intending will; but, on adequate limiting evidence, we are led to expel its purpose from the immediate animal act, which then falls into the category of automatic. Our method of dealing with this problem on a minor scale will help us through it in its whole extent.

Now we are entitled to say that the three marks already enumerated, —selection, combination, gradation,—are characteristic of *intention*, as distinguished from automatic action; that is, of immediate and explicit as distinguished from mediate and implicit Will: they are descriptive terms of so many exercises of thought in its works of art, and are absolutely unmeaning except as designating relations intellectually determined. We personally know them in their process; we read them by their signs, as they go on in our fellow-men; we find their vestiges in the products which they leave behind. We have no more doubt as to the skilled source of the armour dug up from an ancient tomb, or of the poem found in a ruined city, than if we had seen the one fabricated and heard the other recited. These marks, however, are by no means limited to human things; they abound in fields of natural history not visibly occupied by any reflective reason. If they are apparent in the structure of a cottage, are they absent from the hut of the beaver and the nest of the wasp? Does the granary of the farmer provide for the future any better than the store house of the squirrel? Is there more skill in a pair of spectacles, than in a pair of eyes?—in a guitar, than in the vocal chords of a Malibran or a Santley?—in the hunter's snare, than in the spider's web?—in the lover's serenade, than in the nightingale's song?—in the oars of a boat, than in the fin of a fish? That these combinations have refer-

ence to an end which has to be gained, it is impossible to deny. Their whole constitution is relative to it, and must have been determined by it; yet, so far as they are organs, they are ready-made gifts of nature to the animal; and, so far as they are acts, they are automatic, and not elaborate inventions; for, if you put these wonderful artists off their beat and set them even the plainest new problem, they can make nothing of it, and turn out utter simpletons. The originality is not with them, as it is with us; they can no more design what they do, than the photographic instrument can design the picture which it reproduces. Whilst we have as much right to say that intelligence works there, as in the well-understood products of human industry and genius, certain it is that intelligence is not present, as conscious reflection, in the operative creatures, but *works through them*, and directs them to their being's end. Hence it is that, in contemplating an instinctive act, we look not upon a whole phenomenon, but only upon a half: there is a suppressed or invisible antecedent, –a rational prelude,— of which we see the mere outcome: just as we may watch and interpret at one end the telegram whose meaning is put in far out of sight at the other.

I have pointed out the mode in which the modern 'philosophy of unconsciousness' turns this argument round, and tries to drive it back to the confusion of its own camp. From the point which we have reached, it may be well to recur to this device. Instead of assuming, from human experience, that our three marks are *compatible only with conscious intelligence*, and compel us therefore to admit this as the complement to instinct, the disciple of Hartmann assumes, from animal experience, that the three marks may *co-exist with unconsciousness*, and that the addition of conscious reflection and purpose in our case is supererogatory and limited to man; it is only that he, as a more developed being, comes to *know* a mode of working which *was* always present throughout the prior realms of Nature. So it is not only possible that the appearance of design should

present itself in the absence of the reality, but certain that it does so; for it is a positive fact that the animals constantly simulate reason without having it. Their own 'inner idea' or sense works itself out in conformable action, but realizes its end unconsciously; —a rudimentary mode of activity, which pervades the lower strata of organic life, and gives a forecast of the pre-conception which directs the energies of man.

Comparing together this view and its opposite, we find them agreed with regard to the observable facts, and differing only on the question whether, in seeing these, we see all that there is. The one, from the absence of intention in the animal practising an art, infers that it must be *somewhere else*; the other, that it need be *nowhere*. The former regards the visible phenomena as in excess of any resources in the organism itself, and completes the story by reference to a causality behind; the latter measures the resources of the organism by what it does, and refuses to go beyond them for a more complete account: if intention is not there, it is because intention is not wanted. The whole phenomenon is there; and we have no right to double it by a hypothetic antecedent. In estimating the claims of this doctrine, the following considerations appear to be the most important.

(1) If the three features which have been mentioned as marks of intention may equally arise from blind drift, either the same effect springs from two perfectly different causes; or else, proceeding from the same element in both cases, it has no real dependence on our pre-conception, and our conscious purpose deceives us with a false pretence of influence; and things would go on the same without it. In either case, we contradict the recognised rules of causation. To say that difference in the producing conditions makes no difference in the produced result is to disregard the principle that like effects bespeak like causes. To say that our conscious intention, though seeming to move us, is wholly inoperative, and that, dynamically, selecting will

is only automatism over again, is to bring upon the field a phenomenon that ends in itself and has no sequel; contrary to the received maxim of the indestructibility of force and the perpetual propagation of changes.

(2) If we are to reduce under one head the two modes of action, the automatic, and the rational direction upon an end, we are bound to ask *which* of them leaves the least to be explained when resolved into the other. Now if anything is intimately known to us, it is the procedure of our own voluntary steps in life. The method of intellectual regress from the pre-conception of the distant end to that of the nearest means, and then of executive progress along the inverse series, was described by Aristotle as it is still described by Bain; nor can anyone doubt that the first term has the same power over the second as the penultimate over the last, and that the causality belongs alike to the mental and to the physical portion of the history. In proportion as the activity of our fellow-men assimilates itself to this type, we perfectly understand it, and it is conformable with our expectations. But the movements of a somnambulist present themselves to us as phenomena without a key: the ingenuities of animal instinct never cease to be objects of wonder; and even our own spontaneous self-adjustments happen we know not how. Hence the inducement to treat these as defective aspects of the former kind; and if the missing rational element is supplied from behind, the perplexing darkness is removed. But if we invert this order, if we address ourselves to the automatic as the type to which the voluntary must be reduced, we do but explain the *clarum per obscurum*, or at least the *obscurum per obscurius*; and we leave off worse than we began.

(3) Not only does the automatic theory explain less than the intentional; it explains absolutely nothing. What is the phenomenon of which an account is required? Not that *something* happens; were it only this,—that a certain quantity of change took place (that is, of '*work*' was

done)—it would suffice to show that the adequate physical efficiency was there; but that what happens is evidently determined by a future event to which it leads, and freely (that is, without any apparent necessity) combines the select conditions of its realization. The question is, how can the future operate upon the present, that which *is not* upon that *which is*? If that future pre-exists in its idea, a real cause is set up which may solve the mystery. But to say, with Schopenhauer, that there is *no cause*, but only an automatic will, is simply to dispense with all causation and fling the question away. Automatism is *self-motion*; the word denotes not any cause, but the *absence of any nameable cause*; merely saying that, as it cannot be found outside, it must be somewhere shut up in the thing itself. Equally negative is the word 'Instinct'; to which we never resort except to intimate that the process which we should expect, and which brings the facts under intelligible rule, is *not there*; and that the ways of rational action are simulated, we know not how. This theory, therefore, in denying design, substitutes nothing; so far as it makes the attempt, it erects a blank into a philosophy.

(4) The variations which this doctrine has undergone betray the difficulty which is felt in retaining the semblance of final causation, while getting rid of all conscious intention. Aristotle, with his usual good sense, laid down the rule, 'without a mental representation there can be no action directed upon an end,'[1] understanding by 'mental representation' either the vestige of a former perception, such as one of the lower animals may have, or an intellectual conception such as only reason can possess. To dissolve this natural conjunction, by eliminating the element of *thought*, was one of the chief aims of Schopenhauer's philosophy. His mode of effecting it is by boldly transposing the two terms in the order of Nature: he maintains that Will operates in the world prior to any idea (Vorstellung), and therefore pursues its end *blindly*, always working,

[1] De Animâ III. x. 10. ὀρεκτικὸν δὲ οὐκ ἄνευ φαντασίας.

without intelligence, towards intelligent results; and, as if to reveal to us the source whence he obtained the hint of so strange a doctrine, he remarks that *Instinct* is the true 'commentary on the creative activity.'[1] Far from denying final causation, he regards it as the only safe clue to conduct us through the study of natural history; and does not scruple to call the end attained by animal ingenuity or by structural adaptation, the *motive* of the operation performed; while still meaning that of that motive no being is conscious, 'Yes,' he says, 'on closely regarding final causation in Nature, we must not shrink, in expressing its transcendent essence, from boldly saying, the end is a motive, operating on a being that knows it not. For assuredly the nests of the American ant supply the operative motive which has produced the ant-eater's toothless jaw with its long, thread-like, clammy tongue; the hard egg-shell which imprisons the chick is the motive for the horny tip with which its beak is furnished in order to break through; after which, it is cast off as of no further use. And, in like manner, the laws of reflection and refraction of light supply the motive for that extremely complex optical instrument, the human eye; the transparency of its cornea, the varying density of its three humours, the form of its lens, the black coating on its choroid, the sensibility of its retina, the contractility of its pupil, and its muscular apparatus, being all computed accurately in conformity with these laws. But these motives operated before they were apprehended; so it is, however contradictory it may sound'[2]. This contradiction,—viz. that a cause can propose to itself an end, and realize it by adapted means, without knowing either end or means,—that a future which sleeps unsuspected in the dark can

[1] Die Welt als W. und V. II, Kap. xxvii, p. 390. Es ist als hätte die Natur zu ihrem Wirken nach Endursachen und der dadurch herbeigeführten bewunderungswürdigen Zweckmässigkeit ihrer organischen Produktionen, dem Forscher einen erläuternden Kommentar an die Hand geben wollen in den Kunsttrieben der Thiere.

[2] Ibid., Kap. xxvi, p. 379.

act before it exists, and make adjustments in preparation for its birth, was too strong for Hartmann, who insists that it is impossible to *will*, without *willing something*, be it *this* or be it *that*; that, till there is a determinate object presented, the will is a blank, and without the conditions of action or change; and that, as it always involves a transition from one present condition to another, it is attended by two representations, viz. of the state immediately felt and of the state to be realized in its place[1]. Thus, then the mental element is restored to the will, which is no longer left in the dark, but able to fix its eye on what it wants. Does the will in nature, then, know what it would be at? does it design and plan, and realize pre-conceived intentions? Nothing can be further from Hartmann's meaning; and when he seems on the verge of this admission, he flies off from it by an unexpected turn; there is indeed a mental representation in the instinctive will, but it is an *unconscious one*: it lives in the creature, it directs the organism, it inspires the movement with regulated system, but remains unrecognized and hid. 'It would almost seem,' he says, 'as though Will, *per se*, were inaccessible to consciousness, and remained so until wedded to an idea. Be that as it may, we may affirm that an *unconscious will is a will containing an unconscious idea*; for of will that contains a conscious idea we are always conscious. Although the difference between conscious and unconscious will is thus only thrown back upon the no less perplexing difference between conscious and unconscious ideas, we gain thereby an essential simplification of the problem[2].' Hartmann finds in Leibniz and even in Kant some support for his doctrine of 'unconscious ideas'; but the 'obscure perceptions' of which they speak are sensitive, not intellectual,—*feelings* existing and changing, without being referred home to the subject as their seat, and therefore without being known for what they are,

[1] Philosophie des Unbewussten A. iv, pp. 83, 84.
[2] Ibid. ad fin., pp. 87, 88.

and not *Vorstellungen* of any kind, much less of an *end* to be pursued. That such a προκείμενον should be present to the mind, and yet latent from consciousness, appears to me a mere contradiction; not less so than an unfelt feeling or an unseen vision. It is true that we sometimes speak of a dreamer or a somnambulist as 'unconscious' of his state. In doing so, however, we mean, not that he is unconscious of the images that throng upon his mind, and the ideal scenery to which his gestures and movements are adjusted, but that he is unconscious of *the bed* which, though he is in it, never suggests itself to his thought, and of the room and the things around him which he does not see; and this is an unconsciousness of what is absent from his mind, not of what is present to it. Or else we mean that, when he wakes and recovers the objects to which he was insensible, no vestiges remain to him of the drama of his sleep, so that what was then in his consciousness now passes out of it, and leaves it empty for other occupants; and this is no unconsciousness of a present state, but only forgetfulness of a past. Hartmann, therefore, while exposing the error of Schopenhauer, has not succeeded in correcting it. He has only shifted it to another place. Both these writers are determined to *eject conscious intention* from nature; and the question with them is, where can they find an open joint at which to fling it out. Schopenhauer tries the dividing point between will and representation; Hartmann, that between representation and intellect; but so long as it remains admitted, that the *end* attained at last supplies the *motive* operative at the beginning, the excluded consciousness and intentionality will steal back, and inspire the automatism of instinct with the purposes of reason.

§ 6. *Place of Teleology.*

If Will supplies whatever meaning there is in the word Causality, and must itself be taken to include intention, we are led, by an *a priori* necessity, to look upon the universe

no less than upon the person of a fellow-man, as pervaded by intellectual power; and must assume purpose to be everywhere. It might appear therefore a superfluous thing to dwell upon its presence here and there, as if it alighted only on favoured spots, instead of being impartial and universal; and the appeal to occasional and select instances of design would seem to be superseded by the doctrine which leaves nothing else for the inner life of nature. The unlimited affirmation of will, like the total denial of it by Spinoza, might be held to exclude that appeal to it by partial samples which constitutes what is called the 'argument from design,' or, as Kant designates it, the Physico-theological argument. And this would be true if, in singling out particular cases of design and insisting on their marks of intelligence, we set the rest of the world in contrast with them, and therefore virtually surrendered it to accident. If the whole cosmos is a voluntary product, the features of will can nowhere be absent, and outward nature will not afford the materials for contrasting its action with its negation. The only sphere in which we can hope to make this comparison is our own life, the phenomena of which do really occur with our will and without our will, and carry in them characteristic indications of this difference. But, in seeking out special examples of purpose, there is no need to treat what lies beyond as undesigned. Among the products of artistic skill, some may tell their story at a glance, or may reveal it distinctly and impressively on careful analysis; others, while still betraying the constructive hand, may hide their purpose from our sight; just as, of two inscriptions disinterred from a ruined temple, one may be in a well-known tongue and give its meaning forth at once, while the other, in an unknown character of a lost language, may remain undeciphered by the archæologist. There is place for teleology, in order to interpret such facts and adjustments in Nature as can be resolved into their significance by help of a well-verified key. It matters not that the key may

only partially disclose the thought we seek to penetrate; the gaps which we leave unread interrupt, but do not destroy, the sense already gained. This is acknowledged even by Gassendi, 'the modern Epicurus,' in opposition to the contempt for final causation which was the humour of philosophers in his time. Descartes had said, 'we shall not stop to investigate the ends for which God has created the world, and shall wholly reject from our philosophy the enquiry into final causes; for we must not be so presumptuous as to think that God has chosen to take us into His counsel:'[1] and again, 'knowing as I do that my nature is extremely weak and limited, while that of God is immeasurable, incomprehensible, and infinite, I have no difficulty in acknowledging that He has command of an infinitude of things of which my mind cannot compass the causes; and this alone suffices to convince me that the whole class of causes supplied by the end in view is useless in regard to natural things; for it seems to me, it would be rash in me to investigate and undertake to recover the impenetrable ends of God.'[2] To this Gassendi replies, 'However true this may be, if you mean to speak of ends which God has chosen to hide or to deter us from investigating, it cannot apply to those which He has exposed to everybody's view, and which disclose themselves with little trouble, and which besides are of a kind to redound to the great glory of God as their author.'[3] To the same effect is

[1] Principes de la Philosophie, Ire Parte, Cousin iii, p. 81.

[2] Meditations: 4, Cous. i, p. 297.

[3] Œuvres de Descartes, Cous. ii, p. 179. Gassendi Opp. Omn. Lugd. 1658, T. iii, p. 359 a. Gassendi further insists that the final cause, besides being in itself evident, may often lead to the discovery of the efficient. For example, a forester or mountaineer, coming down into the plain, may reach a covered bridge spanning a river; and, noticing nothing at first but its mouth, may think no more of it than of some natural cavern, formed by a tumble of rocks meeting from the opposite side of the valley. But when he sees how it gets the travellers across the river and shortens their journey, and observes the regular arch of hewn stones, and everything disposed with most skilful adaptation to one object, he knows that the bridge is neither without a builder nor built by chance, but is due to one intent upon an end, inventive of the means, and competent to

the happy illustration which Boyle gives of the case in which we find ourselves: 'Suppose,' he says, 'that a countryman, being in a clear day brought into the garden of some famous mathematician, should see there one of those curious gnomonic instruments that show at once the place of the sun in the zodiac, his declination from the equator, the day of the month, the length of the day, &c.; it would indeed be presumptuous in him, being unac-

the execution. 'How is it possible,' asks Gassendi, 'to say, in view of the structure of our own bodies, that all the designs of God are alike hidden in the inscrutable abyss of his wisdom?' and he singles out, as specially unmistakeable, the valves of the heart, so adapted in their material form, number, and position for admitting and discharging the blood to and from the required chambers; and the corresponding provision against regurgitation in the blood vessels; and also the tendons which close the finger joints upon the palm, and which so artfully divide themselves so as to let others pass through. In such cases, he insists, it is the very reverse of the truth to say that the final cause is inaccessible to knowledge, and only the efficient within our reach. 'Tell us if you know,' he says, 'what agent forms and disposes, in the way observed, these valves at the orifices of the blood vessels in the chambers of the heart? in what state and from what quarter it borrows the materials for their elaboration? how it addresses itself to the work? what instruments it uses, and how it gets hold of them? What are its resources for making them all right in proportion, consistency, cohesion, flexibility, size, form, and position? tell us, you wonderful—man, shall I say? or hero? or demigod? no—but downright God, if you know.' Ibid., p. 361 a, b, 362 a.

It is not without reason that Gassendi selected, as an example of obvious purpose, the valves of the circulatory system, and claimed for such phenomena a place in scientific studies as well as in natural theology. The passage which I have cited belongs to the year 1643; and Harvey's great discovery, announced fifteen years before, stood in clear relation with the very structure to which appeal is made. 'I remember,' says Robert Boyle, 'that when I asked our famous Harvey, in the only discourse I had with him (which was but a little while before he died), what were the things which induced him to think of a circulation of the blood? he answered me, that, when he took notice that the valves in the veins of so many parts of the body were so placed that they gave free passage to the blood towards the heart, but opposed the passage of the venal blood the contrary way, he was invited to think that so provident a cause as nature had not placed so many valves without design, and no design seemed more probable than that, since the blood could not well, because of the interposing valves, be sent by the veins to the limbs, it should be sent through the arteries, and return through the veins, whose valves did not oppose its course that way.' Disquisition about the Final Causes of Natural Things; wherein it is enquired whether, and (if at all) with what cautions, a Naturalist should admit them. Works, 5 vols. folio; with Life, by Rev. Thos. Birch, 1744. Vol. iv. pp. 515 seqq.

quainted both with the mathematical discipline, and the several intentions of the artist, to pretend or think himself able to discover *all the ends* for which so curious and elaborate a piece was framed; but when he sees it furnished with a style, with horary lines and numbers, and manifestly perceives the shadow to mark from time to time the hour of the day, it would be no more a presumption than an error in him to conclude, that (whatever other uses the instrument was fit or was designed for) it is a sun-dial, that was meant to show the hour of the day.'[1]

The justifying object then of teleological enquiry is, to ascertain whether the world answers, in its constitution, to our intuitive interpretation of it as the manifestation of intellectual purpose. As only living beings can be objects of purpose, good and evil, the better and the worse having no other seat, we must resort for our reply to the field of organic nature; and it will be affirmative or negative according as we find there, or fail to find, in adequate prevalence, the three marks of intention before enumerated.

I. Are there indications of *Selection*? Lest we go astray in our search for them, consider for a moment what we are to look out for. 'Selection,' you may perhaps say, 'is a mental act, not a visible phenomenon, and cannot therefore be noticed by any scrutiny of ours; and if we fancy it discovered, it will be by ourselves putting it into the scene from which we profess to read it off. A little reflection however will show, that this subjective act has an objective side which speaks for itself. He who selects takes for realization one out of several possibles. Observing him in a single instance, you cannot tell his act from a mere fortuity; he may have chosen, or he may have chanced, the thing he took. But if, through a score or a hundred similar opportunities, he repeats the same appropriation, you know that it is no random hit he makes: there is here a new phenomenon over and above the individual events, namely, a certain

[1] Disquisition about Final Causes: ibid.

order among them, consisting in the regular reproduction of the same; and for this phenomenon you need a cause, and have it, in the controlling preference of the agent. Selection therefore has its legible external feature, namely *among several possibles, steadily one*; and, to find it in Nature, we must plant ourselves in some contingent scene, and notice the cases in which all other contingencies are dismissed in favour of a constant one or few.

Happily we have no difficulty, under the guidance of the modern naturalist, in finding our scene of contingencies. The 'geometrical' or 'mechanical' systems of the universe, which linked all its facts together, like the properties of the conic sections, by the ties of mathematical necessity, have retreated before the advance of physiology; and the world, as it is, is regarded, no longer as the only possible, but as the successful competitor for existence among many that once bid as fair to be. The first principle of the reigning hypothesis is the extensive openness of all living forms to slight 'accidental' variations, enabling them to diverge from a parent stock in directions indefinitely more various than those actually traced; so that, of the resources assembled on some early field of Nature we must conceive, as a countless multitude of possibilities pressing towards the entrance gates for a place in the theatre of life. And the method by which their claims are sifted Mr. Darwin himself designates as 'Selection,' 'Natural Selection,' the attainment or increase of some property giving an advantage in the struggle of life. Here then we have plenty to choose from; and something (we will not at present ask *what*) that chooses; and we can consult some of the phenomena of selection.

(1.) The anterior limbs of vertebrate animals exhibit in the skeletons a fundamental unity of plan and of relation to the whole; yet in their wide differences attest the indefinite range of variation which is left open to them. The changes that might be rung upon them by extension or contraction of size, by altered proportions of their members, by readjustment of weight, by shifting their leverage, by modifying

their muscular apparatus, are endlessly in excess of all the actual types. What, then, has limited the number which have found admission? Is the restriction merely arithmetical, so that we have before us about as many as would be flung down at random at any one time? If so, they will follow no rule, and will present simply a miscellaneous lot of 'accidental variations.' Instead of this, the revision of the structure has undeniable reference to the medium in which the creature is to live; reducing it to the pectoral fin of the fish and the paddle of the seal; or extending it into the wing of the bird, itself elongated by the primary feathers which grow from the fingers; and in terrestrial animals terminating it with the hoof or toe for progression, the claw for battle, the hand for prehensile arts. Why are the modifications of form thus accurately relative to the conditions of life? It cannot be pretended that the medium itself can mould the organs committed to it into congenial shape. Except in mythologic tales no fisherman, like Glaucus of Anthedon, can betake himself to his own element and become a marine inhabitant indistinguishable from the fish, even though he has an immortality to do it in. Nor could any air that blows help the arms that beat it to grow into wings; whatever force was called into action by incipient attempts to fly would work in opposition to such direction of development and sweep away its first beginnings. The waters and atmosphere can never set up instruments of resistance to themselves. If, then, the determining power does not lie in the play of the medium on the organism, we must seek it in the organism itself. There are but two ways in which its operation there can be conceived. It may be lodged already, as a pre-existent control, in the germ of the whole organism, so that, in conformity with Müller's doctrine, 'the egg or germ potentially contains' the entire ulterior structure; the members of which would therefore appear prefigured there to an eye of keen analysis, and the process of growth would be merely an expansion of all the original relations. To take it thus is to say, with Claude-

Bernard, that there is, incarnate in each type, '*a directing and organizing idea*' or '*vital design*,' which works up the materials available for its own execution. And what does this mean, but that the future form is already bespoken, and it is too late for anything else? The selection is only pushed back to the source which implanted that 'directing idea' and armed it with its gradually waking power; and if, at that prior moment, other lines were open (and else there is nothing to be explained), their exclusion in favour of a single one is preferential, and carries in it prospective arrangements to be unfolded in due time. The other and more recent doctrine, favoured by M. Robin and the 'Positive' naturalists, is that of '*epigenesis*,' or growth of the embryo by accretion rather than by expansion. In their rudimentary stages, it is said, animal forms ultimately most divergent are indistinguishably alike, and no microscope enables us to divine what they are to be, or read in them any 'directing idea.' It is not till late in their prænatal history that their differentiation from each other sets in; and then it is by piecemeal additions of part after part that the whole is at last built up. If this account is accepted, the only change it makes is, that the moulding idea, instead of being folded entire in the germ as its material nidus, distributes itself into successive acts of construction, for the completion of which the whole waits to declare its character. The result being the same, and delivering one creature to the land, another to the water, another to the air, the problem 'Whence the selective causality?' remains unaffected. Whether it be there *ab initio*, or be consecutively applied, it is charged with the explanation of the same adaptive relations. Though the newer theory is favoured by naturalists who reject the doctrine of design and suppose it thus superseded, I am not sure that it does not rather work the other way; for, if we want to conceive of development within a purely physical circle of processes, with a minimum of temptation to enquire beyond, surely the gradual increase of a given form in all its dimensions at once leaves us less to

ask, than the successive aggregation of heterogeneous organs of which no hint had before been given.

But may not the working of Chance on a sufficiently large scale and in the long run, deceive us by simulating selection? Among the countless 'accidental' novelties started by the interaction of organism and medium, only those will hold their ground which are in equilibrium with each other and with the whole; and by the elimination of all the unstable attempts, we shall be left in the presence of the happy adaptations, as the residuary universe; and it will exhibit just the same aspect as if its contents had been all designed, and no failure had ever disputed the field with them. It is certainly remarkable that the scientific speculation of the nineteenth century should have reverted to the Lucretian doctrine, and set it on high as its culminating light[1]: if any fact can give plausibility to the pessimist view of human life, it is that this is the point at which we are landed after sailing the philosophic seas of so many proud ages. It is true that in the hands of Darwin and Herbert Spencer, the theory of chances is placed under some reasonable restraints which were absent from the ancient philosophy: the tentatives open to the organic world are not indefinite; nor in their origin are they regarded as without determinate cause. But still, the unstable ones are immensely more numerous than the stable; and as they arise we know not how, they are, relatively to us, fortuitous. Indeed the very candour and conscientiousness of Darwin have led him to leave more to chance in this sense than

[1] Nam certe neque consilio primordia rerum
Ordine se suo quaeque sagaci mente locarunt
Nec quos quaeque darent motus pepigere profecto,
Sed quia multa modis multis primordia rerum
Ex infinito jam tempore percita plagis
Ponderibusque suis consuerunt concita ferri
Omnimodisque coire atque omnia pertemptare,
Quaecumque inter se possent congressa creare,
Propterea fit uti magnum volgata per aevum
Omne genus coetus et motus experiundo
Tandem conveniant ea quae convecta repente
Magnarum rerum fiunt exordia saepe,
Terrai maris et coeli generisque animantum.—V. 419–431.

previous naturalists who had attempted the same problem. Lamarck was ambitious of more fully explaining the course of organic development than is now deemed honestly possible; not indeed dispensing with an *internal power*, which he could only describe as a tendency of life to increasing complexity; but vesting in the external medium a large control over the form and extent of its results; and attributing to the *needs* of the animal a moulding action, and to its *habits* a conservative or stereotyping force, which observation does not confirm: and so, whatever fails to be thus accounted for has to be taken back into Darwin's category of 'accidental variation.' Hence,

(*a*) The range given to chance appears to me quite inadmissible; so large indeed as to amount to an abandonment of the problem as a philosophical whole. The known species of organisms are the residue preserved in the competition of life by some casual advantage accruing to them through natural selection. This advantage is a prize turned up by the wheel of a vast lottery, with the peculiarity that its ticket was not made out and deposited there before, preordained to be drawn by some one; but formed and inscribed itself by the molecular experiments of the machine. No one can deny that the beneficial feature *might* thus arise, any more than that a basket of compositor's types emptied often enough upon the floor might tumble them at last into the text of Shakespeare's Macbeth. But the number of trials prior to such an event scares the imagination by its prodigious amount; and it is the measure of the field allotted to accident. Nor is it only in the first appearance of an advantageous variation that the overstraining of fortuity occurs. In order to preserve and transmit the advantage, it must accidentally arise twice over, once in each parent of the future stock. Even then the novel feature is far from being secured; if it reappear in one or more of the offspring, it is still a family peculiarity, almost certain to disappear among new mates in the next generation. An ingenious attempt has been made by Mr. Alfred

W. Bennett to compute, in a particular instance, the chance of perpetuation for an organic specialty produced by natural selection. Among the dainties of an aviary, perhaps butterflies are the choicest: but, in the gaudy South American tribe of Heliconidæ, there is one genus, the Ithomia, which is particularly repulsive to birds from its exuding, when attacked, a nauseous fluid; and through this protection from its natural enemies, it becomes very abundant. By some freak of nature, the colour and appearance of one species of Ithomia have been exactly copied, not in another species, or even within the same tribe, but in one of the species of the genus Leptalis, belonging to the totally different class of Pieridæ. The imitation is the more remarkable, because, in size and form, in movement, and in colour almost white, most of its congeners in this class present the strongest contrast to the characters of the Heliconidæ. The plagiarism, by a mysterious restraint of good taste, stops with the bright colours, and dispenses with the accompaniment of the nauseous exudation, as if deeming it a superfluous protection. The disguise completely imposes upon its natural enemies, and secures it from pursuit. At the low rate of change whence new species arise, not fewer than a thousand steps must be taken from the original to the completed type; and during the earlier stages the modifications would be too slight to have any effect upon the birds,—say for the $\frac{1}{5}\frac{1}{0}$ part, i.e. through twenty generations, of the whole process; and, so long as this lasts, natural selection does not come into play, and the occurrence and recurrence of any determinate step of metamorphosis is a mere chance. This chance of first entrance for the operation of natural selection is thus computed by Mr. Bennett, after reducing the twenty generations to ten, in order to give every admissible advantage to the theory of 'accidental variation,' and to simplify the terms of the calculation. 'Suppose there are twenty different ways in which a *Leptalis* may vary, one only of these being in the direction ultimately required. The chance of any individual producing a de-

scendant which will take its place in the succeeding generation, varying in the required direction, is $\frac{1}{2^0}$: the chance of this operation being repeated in the same direction in the second generation is $\frac{1}{2^0 2} = \frac{1}{4^0 0}$. The chance of this occurring for ten successive generations is $\frac{1}{2^0 10}$, or about one in ten billions. Now another factor comes into the calculation, and that is, the number of individuals among which this chance is distributed. Mr. Bates and Mr. Wallace agree in stating that, both in South America and in the Malay archipelago, the imitative species are always confined to a limited area, and are always very scarce compared with the imitated species. We will assume that the number of individuals of the imitative *Leptalis* existing at any one time is one million. The chance of there being among these million a single individual approaching the *Ithomia* to the extent of one-hundredth is $\frac{1000000}{10000000000000}$; or, the chance against it is 'ten millions to one.'[1] Against these odds the primitive variety would long ago have been worn out; the individual deviation being lost amid the renewals of the original type through multitudes practically exhaustless.

(*b*) And this leads me to another difficulty attaching to the hypothesis of survival of the fittest accident. I cannot see that the hypothesis accounts for the total elimination of all but a few successful types, and the non-appearance of the vastly out-numbering swarm of abortive bids for a place in the world. It seems to be always assumed that we can expect to see only the forms that hit the conditions of equilibrium, and that all the rest, though once started on their candidature, must long ago have been driven from the field and been completely run out. If chance had any brains and could learn a lesson from experience, it might get to know when it was beaten, and decline to try it again; and a failure once incurred *would* then be whipped

[1] The Theory of Natural Selection from a Mathematical Point of View. by Alfred W. Bennett; a paper read before Section D of the British Association at Liverpool, Sept. 20, 1870. Nature, Nov. 10, 1870.

off the world and done with. But you have here invoked an ally which, once rashly let in, never tires, and insists on repeating its offers when you would gladly be rid of them. What is there to hinder the perpetual starting of fresh tentatives, and the consequent appearance of animal and vegetable types of every grade of instability, suppressed in a moment, or fighting the battle of life for days or years or a few generations, and then heard of no more? Natural selection saves permanent races for the world, not by *preventing* the origin of others, but by defeating their effort to hold their ground: its operation therefore implies their presence, and even leads us to expect it more in our age than in earlier periods of the earth's history. For, the more complex and highly differentiated the organic structures are, the more liable are they to variation; so that the 'accidents' which open possibilities of development grow numerous as we advance, and were never at so high an amount as now. How is it then that a limited number of stable forms appear the only tenants of the globe, instead of being mingled,—rari nantes in gurgite vasto,—with a fluctuating mass of comparatively evanescent life?

(*c*) Nor does this hypothesis account much better for the conservation of the stable forms than for the total disappearance of the unstable. We are apt to assume that when once a determinate type has been set up, there is nothing more to explain; it will take care of itself by the law of heredity. But what means that law? It means that certain features, hit upon (according to the theory we are discussing) by accident, *repeat themselves* again and again indefinitely, in successive organisms not necessarily carrying them and open all round to change. *Variation*, it must be remembered, is a *departure from heredity*, and, so far as it is admitted, withdraws something from the range of the law; yet, the very property which you have thus exempted you immediately put under the rule which it disregards, and which, if operative, would have kept it out of existence. In order to get advantages for an or-

ganism, you break the law; in order to keep them, you enforce it. For, though the 'new characters' of which 'the force of inheritance allows the incessant appearance' may be, as Darwin assures us, either 'beneficial or injurious, of the most trifling importance, such as a shade of colour in a flower, a coloured lock of hair, or a mere gesture: or of the highest importance, as when affecting the brain or an organ so perfect and complex as the eye: or of so grave a nature as to deserve to be called a monstrosity, or so peculiar as not to occur normally in any member of the same natural class': yet from their often 'being limited by sex,' '*their preservation and accumulation are dependent on their service to either sex.*'[1] Thus it is by 'preserving all profitable variations' that Nature 'improves her inhabitants'; she 'can act on every internal organ, on every constitutional difference, on the whole machinery of life'; and in doing so, 'selects only for the good of the being which she tends'; and her productions, as compared with man's, are 'infinitely better adapted to the most complex conditions of life, and plainly bear the stamp of far higher workmanship.'[2] 'And this preservation of favourable variations and the rejection of injurious variations, I call (says Darwin) *natural selection.*'[3] That new experiments in life should incessantly arise, should be put in charge of inheritance to keep, but subject to sifting by 'the good of the being' they affect, is surely an adjustment not incompatible with the action of an intending Mind; and therefore improperly appealed to in evidence of the reign of accident. That the animal constitution should thus yield where persistence would bar improvement, and become inflexible where yielding would be mischievous, is surely an arrangement beyond the resources of happy fortuity; nor can it be legitimately permitted to an hypothesis to take up 'accident,' and lay it down again, in this arbitrary way.

[1] Animals and Plants under Domestication, ii. 80, 84.
[2] Origin of Species, ch. iv. pp. 82–84.
[3] Ibid., p. 81.

Even if we were to waive the difficulty of inheritance in the case of accidental organs, and were to concede that, as they lasted through life, they would have time for constitutional effects, and so might influence the progeny, we should meet it in more serious form, as Janet has admirably pointed out, in the case of accidental *instincts*. Their adaptation to the conditions of the animal's existence Darwin explains by the same method, of happy fortuity, in varying the ways of life: the activity of the creature makes a good hit and does something convenient; this is repeated and becomes an individual habit; the habit is transmitted to the offspring, and, taking its place among the usages of a species, acquires the dignity of an instinct. In this deduction everything is derived from a perfectly transient act, a mere random dash of spontaneity; it is not assumed that any sort of immediate good is felt to accrue from it, which could move the animal to try it again; yet at the next step we find this action treated as a *habit*: it could become such only by an unaccountable and constant recurrence of the original accident. Even then it is a mere acquired and superficial way of movement, not modifying, like a congenital organ, the structure and constitution of the creature: it is moreover an *individual* peculiarity, which cannot be looked for in a second instance; so that to suppose the descent to another generation of such a freak is to put an excessive strain upon the doctrine of inheritance. It is well known that our great naturalist explains on this principle the strange habit which distinguishes the English cuckoo from the American, namely, of depositing its eggs to be hatched in the nests of other birds. He supposes that this was originally done by some blundering British mother that had lost her way and had got into the wrong house; and that, from similar dreaminess about locality, other birds now and then were betrayed into the same awkward liberty with a stranger's domestic arrangements. Some accidental advantage having accrued from this mistake, either to the bird herself or to the

progeny she had put out to nurse, they enjoyed a more favourable chance in the struggle for life, survived in preference to their rivals, became the species, and communicated to it the eccentric blunder of their ancestor. If a casual slip, or trick of fancy, can be stereotyped and transmitted, and entered on the books at last as a law of nature, it certainly puts all awkward people under a more serious responsibility than they had suspected. A gentleman, knocking at the wrong door for a dinner engagement, and shown into the drawing-room, might become the founder of a new race with whom it would be a moral axiom to entertain everybody's guest but your own.

(*d*) Though it is impossible to speak with any approach to exactitude of the geological periods of the globe, and they are without any common measure: yet the portion of them which contains the whole history of animal life lies between certain extreme numbers which none of the varying estimates transgress; and so the question becomes possible, whether the maximum duration assignable to the existence of living forms is adequate to their production by the play of accidental variation with survival of its favourable hits. No estimate, we are assured by M. Naudin (a 'distinguished botanist' often quoted by Darwin),[1] goes beyond fifty millions of years. Liberal as this allowance seems for chance experiments in the moulding of sentient organisms, there are grave reasons for doubting whether it is enough. We are indebted to the little arborescent madrepore for a possible unit of measurement with which to pass across so vast a time. The coral reefs constructed by this animal have been carefully studied by Mr. Dana, the American geologist; and he finds that though the branches of a coral rise about $1\frac{1}{2}$ inch per annum, yet this is equivalent, when the interstices are filled up and the bare patches between

[1] E. g. in Animals and Plants under Domestication. i. pp. 357, 399. See, in Revue Scientifique de la France et de l'Etranger, 4e Année, Num°. 36, 6 Mars, 1875, Naudin sur les Espèces affines et la Théorie de l'Évolution. Sir W. Thomson, however, reasoning on physical grounds, allows 100 million years for the development of life.

the living work are covered with coral debris to the same level, to no more than an upward growth of ½ inch for the whole mass of the building. At this rate a reef 2000 feet thick (and some are at least as thick) would require for its construction not less than 192,000 years[1]; or, as Agassiz states it, 200,000 years. During this period therefore the madrepore has continued as it is to-day, and been building up evidence against its own 'accidental variation.' There are but 250 of such periods in the whole term at disposal; and who can suppose, after looking at such a sample of the rate of change, that these steps suffice to evolve all existing types of sentient life from the primordial animal cells?[2]

[1] See Manual of Geology, by James Dana, 3rd Edn., New York, 1880. Part III. Sect. 5, p. 591.

[2] A curious sample of a somewhat similar argument, mixed up with an arbitrary theory of Providence, occurs in St. Pierre's Studies of Nature, Hunter's translation, vol. ii. pp. 375, 376. 'An irrefragable argument in support of the recent creation of the globe is this: were the globe of very remote antiquity, all the possible combinations of the propagation of plants by seed would have been already completed all over the world. Thus, for example, there would not be an uninhabited island and shore of the seas of India which you would not find planted with cocoa-trees and sown with cocoa-nuts, which the ocean wafts thither every year, and which it scatters alternately on their strands, by means of the variety of its monsoons and of its currents. Now it is unquestionably certain that the radiations of that tree and its fruit, the principal focusses of which are in the Maldivia islands, are not hitherto diffused over all the islands of the Indian Ocean. . . . The philosopher Francis Leguat and his unfortunate companions who were, in the year 1690, the first inhabitants of the small island of Rodriguez, which lies one hundred leagues to the east of the Isle of France, found no cocoa-nuts in it. But precisely at the period of their short residence there, the sea threw upon the coast several cocoa-nuts in a state of germination; as if it had been the intention of Providence to induce them, by this useful and seasonable present, to remain on that island and to cultivate it.

'F. Leguat, who was unacquainted with the relation which seeds have to the element in which they are designed to grow, was very much astonished to find that those fruits, which weighed from five to six pounds, must have performed a voyage of sixty or eighty leagues without being corrupted. He took it for granted, and he was in the right, that they came from the island of St. Brande, which is situated to the north-east of Rodriguez. These two desert islands had not as yet, from the creation of the world, communicated to each other all their vegetables, though situated in a current of the ocean which sets in alternately, in the course of one year, for six months towards the one, and six months towards the other.

'However this may be, they planted those cocoa-nuts, which in the

I have thought it well, in treating of the first example of selection, to meet at once the doubt whether accident might not put on the same appearance and deceive us by the mask of purpose. If this difficulty is removed, it will be needless to multiply instances of selection; natural history consists of little else; one or two samples will suffice.

(2) The modifications in the organs of sense have, in their leading features, obvious reference to the conditions on which their function is to be exercised, yet cannot have been the result of these conditions. Animals that live in the water, the undulations of which are strong, need no apparatus like a hearing trumpet for collecting them; and have only the internal ear; while the terrestrial mammals are furnished with an external concha, often very moveable; and whilst, in hunting quadrupeds, the ear is turned forward for pursuit, in those which have to escape them by flight, it is turned backwards, to give warning of danger. In the harmless hare, the outer ear is open and exposed, though the delicate parts are safely out of reach: but where the animal frequents the bed of a river, like the hippopotamus, or burrows or dives, like the water-shrew, the external meatus is protected by a membrane which closes as a valve against mud and water. Moreover, the auditory organ is in accurate relation with the vocal apparatus whose effects it has to measure. It is simplest and least developed in creatures which have no proper *voice*, that is, which, being without lungs, produce only *sound*, and *that* from other parts of the body than the mouth. In birds, the ear is very large in proportion to the rest

space of a year and a half sent out shoots four feet in height. A blessing from heaven so distinctly marked had not the power of detaining them in that happy island. An inconsiderate desire of procuring wives for themselves constrained them to abandon it, notwithstanding the remonstrances of Leguat, and plunged them into a long series of climates which few of them were able to survive. For my part I can entertain no doubt that, had they reposed the confidence in Providence which they had reason to do, its care would have conveyed wives for them into that desert island, as it had sent to them the gift of the cocoa-nut.'

of the head; and, in correspondence with its completeness and delicacy, is the perfection of their vocal mechanism. They possess a second larynx, at the base of the windpipe, as well as that at the top; so that, if a duck's head be cut off, its sound can still be uttered. There are not, it is true, two sets of vocal chords; they are limited to the lower larynx; but the power which the other has of modifying its orifice, adds materially to the musical resources of the tube. The capacity of differentiation in these related organs, notwithstanding their fundamental uniformity of type, would strike us with astonishment, were we not so familiar with it. If you give an order for 10,000 violins, how many of them could you distinguish from each other when they came home? But here is an instrument made up of a pipe, a reed, and a few fibres, which is multiplied vastly more, yet so sharply varied and so constant to its variations, that every creature among myriads instantly knows its own kind by the ear alone, and has certain notice of its enemies from afar. This persistency in the same species, with variation through many, is surely an unmistakeable mark of proper selection.

It is the same with the differences in the organ of sight. Though for several of them the reason is still obscure, the broad features of change in the eye, as it is filled up for the successive members of the animal kingdom, stand in clear relation to the corresponding media and needs of life. Common to them all is the fundamental provision,—a nerve responding to light alone, constant to this one appeal, dead to every other, with some translucent spot on the surface of the organism through which the rays may have access to the nerve. But for the benumbing influence of custom, this appropriation, this specialty of sense, would in itself strike us as a selective act, of which no account can be given apart from all reference to functional use. Who can point out an efficient cause, in a nature indifferent to function, that shall discriminatively weave two nerves, one conducting undulations of light, the other those

of sound? and shall further keep their reports apart in chambers of heterogeneous impression? Who can give us a reason, drawn from molecular matter and motion, why the dissimilar affections never waver or interchange? As we follow the increasing refinements and complexities of structure from the mere stemmata or lucid spots of the Annelida to the human eye, we cannot fail to notice how the leading modifications answer to the shifting demands of animal life. The insect, which has no room for a camera within, and a six-muscle apparatus without, to sweep the field of vision, and whose rapid flight no moveable eye could guard with adequate vigilance, is furnished with a stationary compound organ, projecting in a hemisphere from the head, and made up of black-lined tubes converging inwards, each tipped by a cornea, supplied with its iris, and communicating by its nerve-filament with the optic ganglion. Each one of these, of which the dragon-fly has upwards of 12,500, is in truth a separate eye, receiving impressions from a single point; and it is by the fusion of the aggregate deliverances of the system that the total field is given in perception. The peculiarity is that, from the fixed protrusion of the cone, there is no occasion for the insect to look about it as it flies. When we reach the moveable eye, we find its outfit strengthened here, and here reduced, according to what it has to do. Fish, for example, always in the water, want no washing and wiping apparatus, and dispense with eyelids; and, as their medium has a refraction about the same as that of the eyeball, the cornea is flat, while the crystalline lens, on which the whole dealing with the light is thrown, is nearly spherical. In one case of special habit,—the Anableps, a soft-finned fish (Malacopterygious) of the rivers of Guiana,—the eye, through the cornea and iris, is divided by a sheet of opaque horizontal ligament into an upper and lower; the one looking down on the bed of the river for the worms that constitute the animal's food; the other on the watch above and around, to guard against the approach of natural foes.

Where the habits of an animal place it in very faint light, as in the case of prowlers by night, and of some species of fish that live three hundred fathoms or more below the surface of the sea, the eyes are large, to gather all the accessible rays; and so are they in animals of prey, that have to look at distant and moving objects while in motion themselves; and in those also which are specially liable to be chased, as the hare and the stag; whereas, if the animal's size gives it some security, and vision is needed chiefly for near or stationary food, as with the hippopotamus and the elephant, the eyes are small. Nor is the position of the eyes in the head without reference to the external conditions of existence; viz. in front for carnivorous animals that live by chase, and must look before them as they run; and for herbivorous tribes that live by defensive precautions, on the two sides, so as to give wide command of the lateral fields, and even, by turning the neck, of that behind. Birds that rise to a great height above their prey, as the eagle and the condor, owe the extraordinary keenness of their vision in part to the magnitude of their eyes, and in part to their internal mobility, which increases their power of accommodation to distance. With regard to amphibious animals, it has been shown by M. Plateau that, in order to see both in water and in air, they must possess what we actually find, the following peculiarities: 'the cornea always flat, or at least much flattened in front of the crystalline and over a space equal to the diameter of that lens, whilst the lateral portion may be much curved.' 'The crystalline is very nearly a sphere, and the humours have nearly the same density as water.'[1] In some of these cases it may be possible to trace, or to indicate by probable conjecture, the process by which the ultimate adaptation of organ to function has been brought about. This detection of the efficient in no way negatives the final cause. An end-in-view, so far from dispensing with means, imperatively demands them and sets them to

[1] Darwin's Animals and Plants under Domestication, vol. ii. p. 223.

work; and to treat it as disproved by the very actions which it institutes is in the highest degree perverse. The means, if you truly alight upon them, must always be physically adequate to the end; but, for all that, the position remains untouched that, as simply physical, they are not adequate to the end in its intellectual relations; any more than the weights and wheels of a clock, and the tools of its maker, are adequate to the invention of the time-piece.

(3) The modifications of structure, in respect of its specific gravity, and the comparative solidity of its parts, bear upon them the mark of selection, with distinct reference to the varying conditions of life, on the land, under water, in the air. Of all larger animals, probably, fish and the cetacea are nearest in specific gravity to the element in which they live, and so have, practically, least weight to move; fish are a trifle heavier especially than fresh water, and require therefore a slight expenditure of force to keep their level; whales are a little lighter, and depend upon their own action to remain under water: but both of them have nearly the whole of their muscular strength at disposal for horizontal progression. The difference between them becomes intelligible, when we remember that, with fish, the respiration is subaqueous, effected by gills in which the distributed blood robs the water of its mingled air; while with whales, as with all mammalia, it is performed by lungs, and needs to seek the atmosphere. With the one, therefore, life is only in the water; while the others divide it, breathing in the air and feeding in the water. Though the whale can dispense with fresh inspirations for an hour or more, it usually comes up frequently to breathe; and at times, particularly in suckling its young, remains vertical in the sea with the head protruded above the surface,—a position contingent on a rightly adjusted specific gravity. Relieved from the vertical strain of their weight, the structure of aquatic animals admits of being only moderately compact; the bones can be light and

porous, in some kinds hardly more than cartilages; and can retain their relative positions with no strong fitting or attachment. The muscular apparatus can be computed with almost exclusive regard to progression, the actions of organic life having once been provided for; it is accordingly concentrated mainly in the posterior part of the body, the tail being the great instrument of propulsion. With the cetacea, whose most important movements are in height, from surface to deep, this member is horizontally flat: with fish, that glide longitudinally, it is vertically flat: in both cases the fins avail chiefly for balance and steering, and preserve the animal, as we see when they collapse in death, from turning upon its back. To allow of the necessary attachments for the locomotive muscles, the lumbar vertebræ are numerous, while the cervical are few, and the whole of the viscera are packed into a small compass near the head. And since in fishes the muscular arrangement is pre-engaged with progression and gives no great facility for changing the depth, a separate provision meets this want; viz. an air-bladder under the mid-spine, which admits of compression and modifies the specific gravity according as it is fully distended or partially contracted. Were we to descend to minor peculiarities, we should still encounter the same selective signs; for example, the Greenland whale, living on small marine animals which it drinks in as it advances with open mouth, is furnished not with teeth, but with two rows of baleen or whalebone plate, attached to the jaws and palate, and edged with a fringe that entangles and arrests the food for consumption, while the water is turned out at the sides: but the herbivorous species, that browse on the algæ and fuci at the bottom of the sea, have regular sets of molar teeth like cattle, and the overhanging upper lips for gathering up their vegetable meal. Nor is it possible, apart from all nicer observations, to see the lithe and pointed form, the scaly surface or the lubricated integument of these tribes, the wary and watching eye, the poised rest or darting motion, without being

struck with their outfit and accomplishment for subaqueous existence.

When we set foot upon terra firma, the conditions are changed, mainly by the entrance of *weight* into the problem. Instead of the whole body being soft-bedded amid equal pressure, all its parts now tend to fall; and a system of support is required that everything higher may be kept in position by that which is immediately below. The vertebræ, densely ossified, must be sufficiently interlocked to prevent their falling asunder; and for the longitudinal column thus compacted, the extremities must be turned into props, while still used as instruments of locomotion. To combine these two offices involves more than one problem of maxima and minima; to insure the utmost strength of support the legs of a quadruped should be short; to insure the utmost speed of movement they must be long. To relieve the muscles of the weight of the body when at rest, the four extremities should all be vertical columns, like the elephant's, which sleeps standing and hardly ever lies down; to give the muscles propelling power, the hinder extremities need extending into a longer line, which can only be done by straightening them from a previous inclination of their segments at alternate angles; and such a zig-zag stem can be held to its duty as a prop only by the tightening action of the extensor muscles. The practical solution of these problems is no less unimpeachable than that which gives five vanes to the windmill of greatest force. The front legs which have to bear by far the greater part of the weight, viz. the projecting head as well as their share of the trunk, are vertically set; while by great elongation of the metatarsal member (all its bones being thrown into one shank), the heel is elevated far above the ground, and the whole hind leg is so divided into angular segments, as both to keep the trunk horizontal when at rest, and, by pulling the segments into a straight line, to fling it forward in running action. The transformation of the phalanges from flat paddles in aquatic animals

to feet for use on land, is differently effected according as an instrument is required for safe footing only, or for predatory prehension too. With the ruminants, the third set is tipped with hoofs, affording by their horny make the surest hold upon even rock or snow, where no pursuer can follow. With the carnivora, the first set of phalanges remains vertical, the second stands at right angles with it to plant the foot, while the third makes another right angle in order to hold the terminal claws in the vertical position ready for use; and this appendage, not being wanted for progression, is usually held back by an elastic within a protecting sheath, and only darts out by the action of the prehensile muscles. If these are plainly weapons of offence, fitted to co-operate with the carnivorous teeth, not less obviously are the horns of the graminivorous tribes weapons of defence, whenever they must stand at bay. The distribution of the viscera, the insertion of the muscles and their strength for flight or for attack, the digestion slow or quick, the vision best by night or day, all fall in with the general scheme of modifications required by the conditions of existence upon land.

The remaining element, the air, presents a world so different that it might seem impossible, in devising inhabitants for it, to take any hints from the other realms, and preferable to start from some point of new invention. At first view, the proposal so to trim and remodel a fish or a quadruped as to domesticate it in the atmosphere presents no hopeful look. Yet the type already familiar to us is made to serve, and vindicates its flexibility by gracefully chiming in with all the new conditions. It is impossible to be indifferent to weight, as with an animal that never quits the ground. It is impossible to balance the weight with the medium, as with an animal that lives in the sea. A portion of the locomotive strength must be spared from its work of progression to lift and sustain the body in a fluid lighter than itself; and to minimize what is subtracted for this purpose must be the fundamental problem in

constructing this new order of being. The bird accordingly is a complete study of economy in weight and intensity in muscular power. By relegating to the gizzard the triturating process of the food, the head is lightened of its teeth and greatly reduced in size. The viscera and ribs are thrown far back, and packed in small compass under the dorsal vertebræ, several of which are anchylosed (united into one bone), to give a firm base of support for the wings; but, these central solidities secured, all beyond is arranged with a view to lightness. The cylindrical bones are hollow, and filled not with marrow but with air, which also has access to the interior of the broad bones, honeycombed as they are with cells; similar cells run through the membranes of the abdomen; so that the small lungs have the power, through their connections, of permeating the whole body with air. As the arms are pre-engaged for flight, the mouth is the only prehensile organ, with some help from the feet; and, to perfect it for this function, it is not only furnished with a beak varied according to the dietary of the species, but is set upon a single condyle to turn every way; and at the end of from ten to (in the swan) twenty-three cervical vertebræ, instead of the seven allotted to the mammals: so that there is never any part of its body which a bird cannot reach with its beak. The flexibility and range thus given may be judged by the habit of relieving the muscles, when tired of bearing the head's weight, by laying it down under the wing during sleep. With all this provision however for lightening the body, there is still need of a most powerful apparatus to counterbalance its gravitation, and give it its free passport through the air. Weight enough must be left to supply the counter force to the relative motion of the atmosphere and the wing: for the line of flight is but the result of these two; and the real problem is to have neither of them excessive in comparison with the other, while both are allowed their play. Often, in a moderate wind, you may see a hawk or other bird hanging aloft, with its axis not

far from vertical, and half folded wings apparently at rest: in this case, the sails are set and the helm is turned at so nice an angle as to play off the line of the wind against that of gravitation, and so sustain the body at its height; and though it cannot also be held from all drifting on the breeze (since the two forces mentioned are at right angles), yet the residuary impulse of the wind is counteracted by inconspicuous exertion of the bird. If, instead of hovering, he wishes to go to leeward, he has but to lift his wings and set them at the right inclination, and he will be borne thither without any effort; though, in order to see his way, instead of moving backward he will prefer to spend some exertion in either tacking or rising high, that he may then. with his vanes obliquely spread, fall before the breeze upon the spot he seeks. When the atmosphere is still, the only difference is, that the business of creating the wind is thrown upon the bird: by the beat of his wings he compresses the air into motion and rises and advances by its reaction, the direction which he takes being determined by the angle of the stroke. The elements of structure needful to meet these conditions are not difficult to define, but very delicate in fact. The wing must be set at an angle variable at will, for more or less of ascent or of progression. It must present a closed surface underneath for the downward stroke, and open for the air to flow through and off with little resistance on the upper side. It must have an area duly proportioned to the weight of the body and the locomotive requirements of the animal. It must be as light as is consistent with the strain to which it is exposed. It must admit of being folded and put by, when its work is done and its owner wants his rest at home. It is needless to say how all these demands are fulfilled: what steerage so perfect and so swift as that of the sea-bird shooting down his long incline, yet, ere he dips, altering his mind and sweeping up again on the counter line, and wheeling around some tempting eddy in the waters, now facing the breeze with rapid beats, now leaning on his side to

turn, then trimming his sails to flight towards his starting point again? The form, not of the wing only but of every feather, hollow and close-tiled below, rounded and opening above, rigid and compact in front, soft and free behind where the air flows off, long and pointed for birds that live in the air, short and rounded for those that feed on the moor or dive in the sea, has every quality and every variety demanded by the exigencies of life. Nor does the instinctive feeling ever fail, which directs to the skilled use of this delicate instrument. Would the bird poise itself at a given point, like the humming bird looking for insects in a flower below? He so inclines his body as to let the plane of the wings be horizontal and their stroke rectangular, and thus prevents progressive motion by any backward beat. Would he turn to the left? he depresses that side as compared with the other and inclines the head and tail upwards, and the flow of the air on the sails thus altered does the work for him, and he wheels like a skater circling without a stroke, by more or less rotation on its axis; determining the curvature to be sharp as the swallow's or deliberate as the heron's. The habit of the wing he accommodates to its strength and to his own needs; if it is short, multiplying its beats, till they quiver out of sight, enabling him to put forth *fits of velocity*, as with divers pursuing shoals of travelling fish; if it is long, demanding from it less vivid strokes, but trusting it for distant ventures of hundreds, even thousands, of miles, and effecting them at the rate of from fifty to a hundred miles an hour[1].

[1] At times it would seem as if the adaptation between structure and medium cruelly failed; as when insects made for life and movement upon the dry ground, and dependent for their food upon what it yields, find themselves thrown upon a land of overflowing rivers and flooded plains. But curious instincts come to the rescue in ways which rival the ingenuities of reason. 'There is found, on the banks of the Amazon, a species of reed from twenty-five to thirty feet high, the summit of which is terminated by a large ball of earth. This ball is the workmanship of ants, which retire thither at the time of the rains and of the periodical inundations of the river. They go up and down along the cavity of this reed, and live on the refuse which is then swimming around them on the surface of the water.' St. Pierre's Studies of Nature. Hunter, ii, p. 414.

These few facts sufficiently indicate the presence of *selection* in nature, that is, the limitation of erratic possibilities to definitely chosen lines, and the steady production of these to the exclusion of the rest. In following them out, we have had to watch the divergence of one fundamental type of structure into several directions of variation, computed mainly from the medium in which the organism was to subsist; and the problem has been how *one idea* can obtain control over a *plurality of conditions*.

II. In looking for the next objective mark, viz. *combination*, we shall have to invert this order, and notice how, following the traces of many independent series of operations, we find the terminus of them all in one functional result; numerous and separate as they are, they have contrived to pick out a common end, and to club their subscriptions for producing it.

1. This kind of combined action is seen in Cuvier's celebrated law of 'correlation of organs' thus strikingly announced in his 'Essay on the Theory of the Earth': 'Every organized being forms a whole—a peculiar system of its own, the parts of which mutually correspond, and concur in producing the same definitive action, by a reciprocal reaction. None of these parts can change in form without the others also changing; and consequently, each of them, taken separately, indicates and ascertains all the others. Thus if the intestines of an animal are so organized as to be fitted for the digestion of flesh only, and that flesh recent, it is necessary that its jaws be so constructed as to fit them for devouring live prey; its claws for seizing and tearing it; its teeth for cutting and dividing it; the whole system of its organs of motion for pursuing and overtaking it; and its organs of sense for discovering it at a distance. It is even necessary that nature have placed in its brain the instinct necessary for teaching it to conceal itself, and to lay snares for its victims.' After showing how this general rule works in its application to the several organs in succession, he sums up

the result thus: 'In a word, the form of the tooth regulates the form of the condyle, of the scapula, and of the claws, in the same manner as the equation of a curve regulates all its properties; and as, by taking each property separately for the base of a particular equation, we find both the ordinary equation and all the other properties whatever, so the claws, the scapula, the condyle, the femur, and all the other bones taken separately, give the tooth, or are reciprocally given by it; and thus, by commencing with any one of these bones, a person who possesses an accurate knowledge of the laws of organic economy, may reconstruct the whole animal.' He adds that this theoretical principle needs to be checked and supplemented by observation of empirical connections which, though constant, do not explain themselves; with the method thus aided, he tells us, 'we arrive at astonishing results. The smallest articulating surface, or the smallest apophysis, has a determinate character, relative to the class, the order, the genus, and the species to which it belonged; insomuch that, when one possesses merely a well-preserved extremity of a bone, he can, by careful examination, and the help of a tolerable anatomical knowledge, and of accurate comparison, determine all these things with as much certainty as if he had the entire animal before him. I have often made trial of this method upon portions of known animals, before reposing full confidence upon it in regard to fossil remains; and it has always proved so completely satisfactory that I have no longer any doubt regarding the certainty of the results which it has afforded me.'[1]

Notwithstanding this impressive testimony from the great naturalist himself, Professor Huxley denies that Cuvier was ever guided, in any of his wonderful reconstructions of extinct forms, by the principle which he so eloquently announces; and declares that, if he had used it, it would

[1] Essay on the Theory of the Earth, by Baron G. Cuvier; with Geological Illustrations by Professor Jameson: 5th. ed., 1827, pp. 83, 85–92.

have completely misled him; just as Hunter had been deceived by the pointed teeth of the mástodon into the belief that the animal was a carnivorous elephant. The real clue, it is affirmed, which Cuvier followed, was merely that of empirical conjunction, apart from all functional idea, and ever liable to correction as experience became enlarged by new examples[1]. I cannot pretend to have tested this strong assertion by carrying it throughout the 'Ossemens fossiles'; but I am the more inclined to trust Cuvier's account of his own method than his critic's contradiction, because he describes it as a mixed method, in which his theoretic principle needs to be qualified and restrained by the empirical observation which Professor Huxley credits with the whole result. An observer who thus cautiously analyses his own procedure and betrays his full consciousness of both its elements, is more likely to have known what he did, than his reader of a later generation who sweeps one half of the process away. It is obvious that, however perfectly the different elements of an organism may be adapted to its conditions of life, the prediction of the remaining group from any given part must always be precarious, so long as the conditions of life—which give the determining factor—are imperfectly known, as in the case of extinct kinds. And if, from this cause, a mistaken inference is drawn, the error will be found due, not to the theoretic assumption of adaptation, but to a hasty confidence in empirical conjunctions. Were I, for example, to have put into my hands the spoon-bill of an animal, I should probably picture to myself its feet as webbed and its body as covered with plumage; yet it might belong to the *ornithorynchus paradoxus*, which has the one but not the other. Am I then misled by trusting

[1] I am unable to refer to any passage in Professor Huxley's writings which contains this criticism on Cuvier, though I seem to remember reading it as well as hearing it. I trust that my statement of it is no unfaithful recollection of a discussion at a meeting of the late 'Metaphysical Society,' at which he presided, and in his powerful summing up gleaned the evening's scanty ears of reasoned truth and bound them up with his own copious sheaf.

to the theory of final causes? Not in the least; *that* would have authorized me to say nothing more than that the *spoon-bill was for spoon-meat*; or, at most, that, as such food was most likely to be found in the water, the web-foot might be expected; but the additional reckoning on *feathers* has nothing to do with the principle in question, and is the pure result of empirical association, which hitherto had presented this structure to me only in birds. The fault lies, not in my adherence to the theory, but in my going beyond it.

The same law which Cuvier announces as 'correlation of organs,' appears in Darwin's writings as '*correlation of growth*'; and it may be useful to contemplate the phenomena it includes under this dynamic aspect, which fixes our attention on their origin and development rather than on their final form. 'The whole organization,' says Darwin, 'is so tied together during its growth and development, that when slight variations in any one part occur and are accumulated through natural selection, other parts become modified.'[1] Some of these modifications might fairly be regarded as included in the original variation and part of the same phenomenon: just as, in the formation of a crystal, the molecules deposit themselves around an axis, and equal increments take place on any two halves which you may define, so, in an organism, a variation on the left side may be supposed to carry with it a corresponding change on the right. Whatever be the cause of the variation may conceivably enough be the cause of its symmetry; and we cannot confidently claim the two as independent changes. But there are other of the concomitant variations which cling together by no apparent internal tie, and seem associated merely by their common relation to the needs of the animal life. No scrutiny of the earliest stages of growth explains to us how it is that the complex stomach of the ruminants is inseparable from a hoof; or how the modification of the teeth carries with it an altera-

[1] Origin of Species, ch. v, p. 143.

tion of the thigh and the claw: or why the web-foot goes with the spoon-bill in the duck which discusses the mud and feeds on the soft ground, and with the sharp-pointed bill in the gull and the petrel that have to catch and hold their fish. We cannot, it is true, always discover a purpose to be served by such conjunctions: for example, it is impossible to say why hen-birds should be denied gay clothing and sweet song; or why blue-eyed cats should be also deaf. But it is the rarity of these seeming incongruities that so much moves our curiosity; and in the vast majority of correlations we recognise without difficulty the confluence of separate provisions to a single type of life. If you set aside the end in view, what reasonable account can be given of the preparation, visible throughout the animal world, for new creatures about to enter it; a preparation various in form, sometimes intentional on the parent's part, sometimes instinctive, and sometimes simply organic? That the human mother gets the cradle ready we treat as an act of rational foresight; is it less so, that at the same time and only then, the natural food spontaneously comes which shall lay the babe there in the sweet sleep of satiety? Is it by calculation of its own, or by inspiration of prescient nature, that the bird knows when to build its nest, and the salmon when to ascend the rivers? More perhaps is here involved than mere 'correlation of growth.' But the same principle is involved; for with an organic change of one kind—the approach of the birth-season—is conjoined another—a special direction of muscular activity; and the only connection which can be traced between the two is their common subservience to the requirements of the future young; it is a partnership for a prospective result.

2. This combination becomes more impressive, when it takes place in the complete absence of one of the related elements, so that all interaction is excluded. It is in the atmosphere that the ear is to have its history: yet not there, under the thrill of aerial tones, but in a silent chamber, are the parts of its labyrinth put together, its cavities

supplied with lymph, its otoliths provided, its two thousand fibres of Corti stretched; and there too the vocal chords and the tuning pipes are adjusted which shall play upon the ear; a musical instrument and a hearing apparatus formed in a site which has no elastic medium! It is in the light that the eye is to learn its lesson and have its life: yet not there, amid etherial undulations, but in the dark, is that most marvellous and mobile of optical instruments built up, as Helmholtz says, 'of leather and jelly'; its cornea cleared and polished, its lens curved and set, its humours poured in, its curtain hung, its sensitive tissue spread, and the very spot pre-designated on which the image may best be thrown. A microscope invented in a city of the blind could hardly surprise us more; it is a correct vaticination of the laws of refraction in a realm that has never even heard of light. Is it possible for imagination to conceive of a clearer case of pre-established harmony between elements that have no acquaintance with each other, and that can be made ready for their future relation only by a mind that embraces them both?

Yet from this inference a method of escape is sought by that universal solvent, the doctrine of evolution. It is only, we are assured, the visual organ of the present individual, fully constituted in its complexity, that is formed in the absence of its medium; and, in order to estimate its process of genesis, we must remember that it is now no new creation, but a mere inheritance, and must cast our glance backward over its whole organic history from the earliest date of sentient existence upon the earth. We shall then, it is said, find the light no longer reserving itself for future intervention on the scene, but an immediate and active factor of the organ itself. If I rightly understand the suggested physiological deduction, we are to think of a mass of protoplasm or some primordial jelly as lying exposed to the sunshine and the air, till it is tickled into some sort of feeling by the play of the one and the vibrations of the other; and, as the two feelings are not the same, they

betake themselves to different centres in the previously homogeneous substance, and set up in it a process of differentiation. In this response of the living body to the two constituents in the medium, we have the rudimentary points of an eye and an ear; and when plied with new varieties of appeal under each head, these incipient organs will answer still with fresh differentiations, always transmitted by the law of descent; so that, after adequate accumulation of refining change, the original sensitive spots, which we still perhaps find represented in the stemmata of some insect larvæ, elaborate themselves into the complex instrument of human vision. In this theory therefore all the successive improvements which make the organ what it is, are wrought in presence of the light and by its co-operation; and in its absence nothing takes place beyond their preservation from age to age. Without disputing this theory, let us consider the logical bearing of its assumptions.

It starts with introducing protoplasm to light and air, and carries us back therefore to its pre-existence without them, during which no beginning is made of visual or auditory life. In itself therefore the protoplasm is blank as regards these functions, and would no more yield them than the dark Kentucky cave develops eyes in the fish of its waters. The first beat upon it of the sun's rays tells upon its material, nay far more, wakes up an inchoate consciousness: the undulations of sound tell upon it also and otherwise, in its molecules and in its feeling; and its constituents must already, I presume, be moving away from their homogeneity towards the apposition and selection of parts that make a nerve, and the dissimilar apposition and selection that will make another. Be it so; but, in order that all this should take place, there is need of a pre-established concord between the material and the medium; mere matter and motion, taken at random and unselected, will not do it; your protoplasm must be constituted so and so,—in this way to answer to the light,—in that way

to answer to the vibrating air, and must carry, as it were, among its cells, here the elements of a retina, there, of an auditory nerve. And what is this but to say that, in the latent state, the organs are already provided there, which shall advance to meet the approaches of the two new media, whenever they shall stream forth and give their challenge? Thus, at the very outset, we are thrown back upon a preconceived relation, for the realization of which provision is made before the component terms are brought together. In short, the protoplasm in this case holds, prior to the change of medium, precisely the same position in regard to the future organs, which the embryo creature holds in regard to the animal fully born; i. e. it contains in itself rudimentary elements, on the due segregation of which different senses will be formed, and for the segregation of which there is security in a coming change of medium. We have here, on a scale magnified to the whole range of living nature, nothing more than has always been familiar to us in each single birth; and if the growth of the egg and its subsequent conversion into the bird do not trouble our discernment of design, it is a mere confusion of thought to be staggered by the suggestion of a protoplasmic ovum whence the whole fauna of the world has been hatched. In the instance we are considering, there is indeed one distinction between the cosmic and the individual case, viz. that the differentiation of the two senses is in the latter complete before the new medium is entered, while in the former that medium itself plays a part in its establishment. But this too is only in conformity with well-known varieties in the history of organic growth; the stages of which are differently distributed; in the viviparous races carried near to completion, in the oviparous little more than incipient, before the new organism is separated from the parent: and the fact that some portion of the process is reserved for the appropriate medium to mature, in no way alters the need of a predetermined relation, enabling it to do this particular work and no other. You

cannot get rid of this predetermined relation, unless you say that it has been hit upon among myriads of experiments yielding all sorts of divergent effects, and survives as alone qualifying an organism to live; and this brings us back to the theory of chance on which we have already commented.

3. A still higher type of combination presents itself when the adaptation subsists, not between organ and medium, but between one living being and another. That among the mammalia the offspring should be able to take the nourishment which the mother is made ready to give, a special muscular aptitude, by no means an easy one (that of *sucking*) is indispensable; and it is there, as soon as the first trial comes. The instinctive art in one being finds the conditions of its use in another. Yet it would seem as if this adjustment must fail in a large class of cases where the same need exists: for many mammalia live under water; and the act of sucking is pneumatic and can be performed only in the air. The new-born whale, however, suffers no disadvantage from this apparent difficulty; for in the mother the mammary gland is surrounded, as Geoffrey St. Hilaire has shown, by a muscular apparatus, which, by compressing the reservoir of milk, ejects the fluid into the applied mouth, and dispenses with the action of the young creature; though it is certainly probable, as Owen observes, that by first closing the lips upon the nipple and then drawing back the tongue to make a hollow in the mouth, the pressure of the water on the breast is also brought into play; so that the provision is doubled rather than replaced. In this instance, the constituents of the relation are two individuals of the same species. But often they enter it from distinct and even remote provinces of nature, which seem to know each other's ways, and form a partnership for some end which they can achieve together. That some kinds of plants, irises, birthwort (Aristolochia), barberry, are dependent upon insects for their fertilization has long been known; and the very existence of Diœcious

plants would else be inconceivable: but it is only of late that the extreme refinement of adaptation by which the end is often accomplished has been ascertained by the patient vigilance of Darwin and other contemporary naturalists. The orchids of Madagascar would be barren but for the services of a certain moth. To attract him, they have honey stored in nectaries of unusual length, in correspondence with which his proboscis also is particularly long. Once enticed in, he alights upon or presses a stamen, which proves to be a 'spring-gun,' and, on its release, flings the anther against his body and leaves its pollen there; and, charged with this, he passes in his excursions to some pistil flower, and fertilises it by his exploring touch. This class of cases elicits from Burdach the following suggestive comment: 'The animal, like the elder brother, plays the guardian to the plant, and comes with his freedom to relieve its thraldom. For this end, there is need of an animal of freest movement, therefore winged; with inner life more closely related to the whole, therefore impelled by adaptive instincts; and lastly, connected in its whole existence with the Flora of the world, and therefore, from its entrance upon life, nurtured on vegetable products. These conditions find their fulfilment in the insects which effect fructification. This is no mechanical botch, no make-shift, as if Nature, having committed a blunder yesterday in forming plants, tried to-day to make the insect mend it: rather is it a deeply implanted sympathy between the vegetable and the animal world. The identity of their forms had to find expression; and it was only right that both, children of one mother, should subsist with and through each other. It is from a single Source that all Life brings its creations forth: delighting in variety, it streams out thence in thousands upon thousands of different directions.'[1] As two provinces of nature thus unite for one end, so do two successive portions of time

[1] Karl Friedrich Burdach: Die Physiologie als Erfahrungswissenschaft, 1ter Band, 2tes Buch, § 263, 2te Aufl. S. 441, 442.

which are out of sight of each other; a combination specially visible in the elaborate arrangements made by many insect tribes for the subsistence of the future progeny which they will never see. The burying beetle (Silpha or Necrophorus Vespillo), for example, looks out for the body of a dead mole or frog or mouse, and when she has found one, sets to work with her companions to scrape away the earth from below it till it sinks into a pit: this is then carefully covered up with sand and soil; the eggs are deposited in the carcass, and when the larvæ are hatched, they find that they are born in a well-stored larder containing all they want. Though these beetles can have no anticipation of the need for which they are providing, they are not easily baffled in their procedure, and can meet obstacles to it with some adaptive intelligence. Gleditsch relates an experiment instituted to test the flexibility of this instinct. A dead frog as it lay on the ground was tied by a thread to a rod stuck in obliquely a few inches off, so that the carcass could not fall any lower. The beetles went to work as usual; when they found it was in vain, they ran about in great excitement, as if to see what was the matter; and at last attacked the foundations of the rod, and never ceased till they had undermined and buried it also, as the only means of securing their prey. The singular habit of the female ant, of biting or shuffling off her wings as soon as she is about to deposit her eggs, and confine her attention to the establishment of the future colony, affords a similar illustration of action unconsciously uniting life that is with life that is to be. And yet another is found in the fact that insects which, before they die, attach their eggs or cocoons to the branches of trees to tide over the coming winter, adjust exactly to each other the seasonal chronology of their offspring and of its abode; so that the young creep out into life precisely when the buds of the trees are opening. The aphis of the ash, for example, remains for yet a month undeveloped, after that of the birch has been reveling on the new leaves. The mutual understanding here

seems to be doubled, and to lie both between two separate generations of an animal species, and the seasons of two provinces in nature. More complex forms of combination for a given end are presented by what may be termed the social instincts of animals. In the bee-hive, for example, the distribution of functions is so exact, that each constituent member of the community seems to be, not so much a complete individual, as a mere organ of the collective life; the drone dosing his existence away as a gentleman at ease, or as the former Dairi of Japan; the queen, content to be the mother of the hive and to lead the first swarm; and the neuters dividing all the work among them, some to nurse the young, changing the food from day to day, some to forage; now to build the royal cells, now to seal them up; or to play the jailer to the rising candidate for queenship, till she is able to take the field and fight it out against competitors amid the buzz of general applause. Here we have the very phenomenon of the 'correlation of organs' reproduced, with the difference that each member is now a living being, and the whole is not an individual but a social organism. The meaning of the parts is found only in the constitution to which they belong; and their intelligent relations must owe their adjustment to some thought, evidently absent from the creatures themselves, embracing and pre-conceiving the whole. Less composite than this organising instinct, but not less surprising, is that which places the same creatures in relation, at different seasons, with widely separated regions of the earth, and enables them, as if they were accomplished geographers, to steer their course infallibly from the one to the other. Shoals of turtles, for example, regularly swim from the bay of Honduras to the Cayman islands near Jamaica,—a favourable spot for laying their eggs,—and make this distance of 450 miles with such precision, that in thick weather ships can sail under the guidance of their rustling in the water[1]. And migrating

[1] Stanley on Birds, i. p. 103.

birds sweep over immense tracts of air, amounting to several thousands of miles, with a punctuality so sure that the Persian calendar is reckoned by them; the voice of the nightingale inaugurating one festival, and that of the stork another: so true is the word of Jeremiah (viii. 7), 'The stork in the heaven knoweth her appointed times; and the turtle and the crane and the swallow observe the time of their coming.'[1] Nor are they less exact in their local than in their seasonal habits; for on their return they recover not only the same country, but the same village and the same nest; so that the vast flocks in which they travel must part and diverge as they arrive, to resume the life of their separated homes. We can imagine readily enough how changes of temperature might awaken in these birds a desire to secure perpetual summer by keeping a second country house not deserted by the sun; but by what mysterious sympathy between their nature and the latitudes and longitudes of the earth their lines of flight are directed, by what magnetic needle within them they trace their unerring path, by what secret chronometry they hit upon the date of passage and keep the appointment with their old habitat, is inexplicable except as part of the intellectual combinations of the world.

III. The third and last mark of *intentional* action we stated to be *Gradation* of arrangement; by which a given end is attained through *a train* of independent means, each making provision for the next, till the series is consummated and crowned by the fulfilment. This feature also it is impossible to miss in the constitution of the world. Nay, so impressive and all-pervading is it, so conspicuous, especially in the organic realm, that a living being has been defined as one in which all the parts are means and ends in turn; and throughout nature our attention, wherever it alights, is so handed on to the next step of the climax, that the only difficulty is to arrest ourselves at a place of pause,

[1] Stanley on Birds, i. p. 134.

having breadth enough to rest on, as not only a means of ascent, but also an end in itself. Such landing places there are, however, which it is impossible to pass without owning that, if there were nothing higher, the world would not have been in vain; but, since there are stages beyond, its good, instead of being a finality, is a relative system of ends within ends; not fixed in absolute perfection, but advancing in asymptotic approximation to it.

1. Of these *étages* in the edifice of nature, *Life* is the first at which every theory is obliged to stop and take breath. Below this, we may perhaps admit something like an order of rank among the inorganic processes, and treat the mechanical relations of homogeneous atoms as more rudimentary than the play of chemical elements. But, if this were all, there would hardly be room for the teleological principle of arrangement here. To mere material data it is indifferent whether they exist or not, whether they exist in this form or in that; and however various their metamorphoses, we cannot say that any one is there for the sake of another, the cubic molecules for the sake of the crystals, the oxygen and hydrogen for the sake of water. But the moment we open our eyes on the physiological world, and see how one of its organisms feeds on the surrounding elements and turns them to its own account, and, after holding its own footing for a while, leaves similar successors to repeat the tale, a new light flashes upon us: we understand what the elements are for; we speak of them now in a different tone; we congratulate them on the triumph of their work. It matters not, in this respect, whether we regard them as having themselves become vital by their own resources, or as utilized by the access of a new transforming power; intrinsically or extrinsically, they have found their way to their proper end; and henceforth we can never treat their differing properties as final, or regard them but as means to this ulterior development. The action, it is true, of vegetation on the one hand, and the air, the light, the rain, on the other, is *reciprocal*: the surrounding medium

takes as well as gives. Yet we naturally think, not of the tree as nourishing the atmosphere, but of the atmosphere as nourishing the tree: it is the later and fuller idea which includes and wields the earlier. Nor is it possible to examine the structure and history of the plant, either singly or comparatively, without recognizing an internal subordination among its parts, all tending to the maturation of its seed. It is constructed on the assumption that it has an interest in the continued existence of its kind; and exhibits, in its different systems of fertilization, a series of marvellous adjustments which cannot be interpreted without this key. The exhalation from the leaves secures absorption by the spongioles of the roots, and the intervening vessels distribute and appropriate the aliment thus drawn from the mineral world; and the whole growth culminates in the production of the flower, secreting within it the ovule whence new plants shall spring. To this every detail in the structure leads up; the adjustment of the perianth, the relative length and position of stamens and pistil, the pendent or upright blossom, the texture and size of the capsule, which in due time the seed is to unlock from within. It is a history which can be read only in one order—a consecutive plot, in which, step by step, we are brought to a *dénoûment* which explains the whole.

2. It has been said that we do not enter upon the province of *ends*, till we reach the animal kingdom: in as much as only a sensitive being can have *any interest* in life, it can make no difference whether inferior life goes this way or goes that. For the reason just given, I think that even in the vegetable world the conception irresistibly forces itself upon us; so that if it really be inseparable from the idea of sensitive existence, we shall have to suspect, with Fechner, that the flora of the earth is not without its share of feeling. But at all events we find another and higher landing place in the structure of nature, when we touch the stage of *Consciousness*. Whatever *internal* adap-

tations to purpose the physiology of plants may carry, their *external* subservience to the maintenance of sentient creatures is indisputable, and must be accepted as their *raison d'être*. Without them, no animal could live: they constitute and administer the great chemical laboratory in which the primary elements, carbon, hydrogen, oxygen and nitrogen are wrought into such proximate principles as can be taken in and turned to account by the animal frame; only that, unlike our chemists' apparatus and processes, their experiments are all silent, their alembics all sweet, their products the grace and beauty of the world, and their very refuse a glow of autumn glory. The dependence of the animal tribes upon vegetation is often circuitous; for they extensively prey upon each other: but, in the last resort, the flesh consumed by carnivorous animals owes its formation to plant-food. *That mere life* should thus be used up in the service of *conscious existence* strikes us at once as a legitimate adjustment of means to ends; and that we feel at first some repugnance to the subsistence of one animal upon another, is itself a testimony to our estimate of sentient being, as so much entitled to be an end, that we do not relish its reduction to the rank of means. Since, however, organisms must pass away and be successive, the economy which turns their disappearance to account and appropriates death to the renovation of life can offend only an unreasoning feeling. And the general law is undeniable that, in this commissariat of nature, it is the inferior life that supports the superior; insects and worms being the victims of birds and edentata (e.g. ant-eaters) and cheiroptera (e.g. bats); reptiles, as young snakes and tortoises, of the larger birds; the smaller fish, of the greater or of the marine mammalia; and the graminivorous animals, as the sheep and the stag, of the feline orders. Finally, it is in the chase of these, or in conflict with them, that man learns his first arts, and wins his place at the head of all terrestrial races. If, at each step of the series, the life produced were *merely an end*,

only so much of it need be born as might remain in permanence; but, serving also as a means to other life, it is provided in large excess of this measure; and the numbers are kept down by the exigences of the next stage; with the general result that what in each individual creature acts as a struggle for existence and looks like unmitigated war, ends in the equilibrium of a well-proportioned whole, where all the parts are mutually supplementary, and are constrained to serve as well as permitted to rule. Scarcely are the organs of a single animal body more closely related to each other as factors of one life, than are the different groups of natural history as components of one system of sentient existence; so that no part could be withdrawn without affecting the balance of the whole and shifting its centre of gravity. It is a many-lived organism, wrought into a vast tissue of interdependencies; not indeed consisting of a single chain of linear means and ends, but of countless ones, radiating through all dimensions, yet tracing the continuous pattern of a comprehensive thought.

3. It is surely no illusory self-exaggeration if we erect *human life* into a third platform, which carries a separate and ulterior end, served and realized through all that goes before. Without attempting to measure the interval between civilized man and other tenants of the globe, we must own it sufficiently great to set him apart as the goal of terrestrial being to which all else leads up. It is impossible to invert this order, or to surrender it to any persuasive force that may lie in external facts. If in any land he were to be mastered and devoured by beasts of prey, or poisoned by morbiferous germs, we should still refuse to say that he was called into being in order to supply flesh-meat to tigers or a nidus for parasitic insects; feeling it not less grotesque an overstrain of the teleological idea than the suggestion of Bernardin de St. Pierre that the preference of fleas for white things as a playground is given in order that they may be easily caught

upon our linen[1]. The internal make and constitution of humanity point distinctly to ends which, whether baffled or fulfilled by outward conditions, constitute its true idea and inherent possibility; precisely as the aeration of the venous blood is the proper office of the lungs, though some pulmonary defect should hinder the adequate decarbonization. Perhaps you will admit that man is the culminating point in the system of nature here on earth; but will object that he is the inevitable result, not the contemplated end, of all its prior history. And if he were the contemplated end, would he not equally be the inevitable result, of the instrumentality instituted for attaining it? In insisting on this necessary sequence, you only declare that the purpose is not left without provision for its accomplishment. With or without design, this feature—of adequate physical efficiency—cannot be absent, and the specific mark of intention lies in the ascending scale by which the series of means *mounts* to a supreme result, and presents a hierarchy in which the lower serves the higher, and each succeeding step bears more the character

[1] Studies of Nature, by James Henry Bernardin de Saint Pierre; translated by Henry Hunter, D.D., minister of the Scots Church, London Wall, 4th edition, 4 vols., 1801. Vol. ii, pp. 198, 199, note. The passage is worth quoting: 'Fleas in whatever place resort to white coloured objects. If you enter into a room where there are many of these insects, if you happen to have white stockings these will instantly attract them. They will even crowd to a single sheet of paper. And this is the reason why light-coloured dogs are much more infested by them than others. I have likewise observed that wherever there are dogs of a white colour, the black and brown pay court to them, and give them a decided preference as playmates, undoubtedly to get rid of the fleas at their expense. In saying this however I do not mean to throw an imputation of treachery on their profession of friendship. Were it not for the instinct of these minute, black, nimble, nocturnal insects towards the white colour, it would be impossible to perceive and to catch them.' The insect tribes had apparently a singular power of tickling the fancy of St. Pierre; he consoles himself for their presence by the benevolent reflection that they are evidently meant to supply occupation and wages to the unemployed: 'The insects which attack the human body oblige the rich to employ those who have nothing, as domestics, to keep up cleanliness around them.' 'How many poor wretches would go naked, if the moth did not devour the wardrobes and warehouses of the rich!'—Vol. i, pp. 311, 312.

of an end and less that of a mere means, till you rest on the summit which completes the scheme. To mere necessary causation no such ascent belongs: it is not physical, but intellectual, and speaks to *our* thought because spoken from nature's.

Not only is man the crown of a system of conscious life, but he contains within himself a graduated hierarchy of functions supplying him with a series of ends, not of equal validity, but arranged in an order of natural ranks. The appetites that wake his energies, the passions that drive away assailing ills, the affections that take him out of himself in devotion to others, the sentiments that draw him to truth, beauty, and goodness, fall into their place, as they struggle within him, under the disposing eye of conscience, and learn to feel that the lower must serve the higher, till in a perfect subordination the moral ideal is realized. And while this is the plan of his individual nature, it does not stop there, or content itself with any internal personal equilibrium; it implicates him at every turn with his fellows, his dependents, his superiors, and throws him upon the reciprocal relations of *Society* for the unfolding of even his solitary mind. Till we come to *the State* and *the Church* we do not reach the highest organism of human life, into the perfect working of which all the disinterested affections and moral enthusiasms and noble ambitions flow. Here at last we find, born into full self-consciousness, the organizing principle which holds together the parts of a living system in unity, and gives them progressive development; inertia replaced by habit, impulse by will, composition of forces by conflict of motives, instinctive drift by intelligent selection, mechanical stability by moral cohesion, gregarious co-operation by deliberate justice, and blind order by ideal aims at perfection. Of this supreme phenomenon all that precedes is the preparation and the foreshadow; and in the human Polity the lower laws, even of physical nature, still more of animal existence, first reveal their full meaning, and are

transfigured from arbitrary necessities into a skilled tissue of rights and duties. It is not without reason that so many chiefs of philosophy have had their vision of a faultless Society as the last fruit and highest possibility of the world; and that Plato, Lessing, Comte, have, in different forms, treated the 'education of the human race' as the end of ends, reserved for the future by the working of the past. If it is to this that all really tends, then we have only to cast our glance back from this altitude, in order to see how all-pervading is that feature of *Gradation* in the causality of nature which is a distinguishing mark of all *intention*.

Slight and rapid as this survey has been, it suffices to attest the presence, throughout the range of natural history, of all the characteristics of intellectual purpose; and to place that living nisus which we mean by 'Force' under the direction of intending Thought. I hardly care to decide whether the reason which leads to this result amounts to an induction or is simply an analogy: the distinction between the two is not very definitely fixed. In both instances we argue, from the resemblance of two things in certain particulars, that what is predicable of the one is likely to be predicable of the other; and if we accept Mill's decision, we gain an induction, wherever a connection is known to exist between the predicate and the properties in which the resemblance lies; but where they merely turn up together without known connection, the resemblance gives us only an analogy[1] In the present instance we compare together the work of man and that of nature; and, on the ground of three resemblances specified between them, we treat the predicate of intentionality, which is true of the former, as likely to be true of the latter. Do we know this predicate to be connected, in the human case, with the three features, selection, combination, gradation? or, do they only appear in mysterious companionship? Plainly, the former; for the three characters

[1] Mill's Logic, vol. ii, pp. 85, 86, ch. xx, § 2.

are nothing less than direct effects of the predicate as cause, operating in the very seats of our own consciousness. By this rule therefore the argument rigorously conforms to the inductive conditions. And this is admitted by Mill himself, who says, 'the design-argument is not drawn from mere resemblance in nature to the work of human intelligence, but from the special character of this resemblance. The circumstances in which it is alleged that the world resembles the works of man are not circumstances taken at random, but are particular instances of a circumstance which experience shows to have a real connection with an intelligent origin, the fact of conspiring to an end. The argument therefore is not one of mere analogy. As mere analogy it has its weight, but it is more than analogy. It surpasses analogy exactly as induction surpasses it. It is an inductive argument.'[1] This judgment of Mill's finds little favour however among the prevailing schools either of philosophy or of science; and we must notice, before we push our reasoning further, the grounds on which chiefly the place which we have vindicated for Teleology has been disputed by great writers.

§ 7. *Objections to Teleology considered.*

The criticism of the argument from design may address itself either to the logical principles involved in its structure, or, to the contents of its component propositions; in the former case, denying the conclusiveness of its reasoning; in the latter, the truth of its statements.

I. Of the former, the most remarkable example is furnished by Kant; and that, not in any express discussion, but in an incidental hint parenthetically dropped, and not further pursued. In this (which I will immediately quote) he gives his sanction to an *a priori* rule often affirmed as if self-evident, viz. 'That no Cause which operates within Nature in conformity with its general laws, can

[1] Three Essays on Religion. Theism, pp. 169, 170.

be also the principle which gives origin to Nature;'—a rule which of course cuts off all extension of intelligent activity from within the world to a supramundane sphere. 'Natural reason' indeed invariably impels us to such extension, but in doing so betrays us into an illusion. He states the argument of 'Natural reason' thus: 'In as much as our human Art can apply successful violence to Nature and compel her to work out our ends instead of pursuing her own, we conclude that underlying the analogy between some of her products and ours (e. g. houses, ships, watches) the same cause will be found, namely, Understanding and Will; and that by recourse to this we may deduce the free adaptive action of Nature (itself the prior condition of all Art and perhaps of Reason itself) from another superhuman Art.' Of this argument he says, it must be granted, that, 'if we are to name a First Cause at all, we cannot follow a safer clue than the analogy of those purposed products of which alone we perfectly know the cause and methods of production. It would be inexcusable in the Reason, to pass by the causality with which it is familiar in favour of obscure and unverifiable explanations.' Yet he neutralizes this concession by the significant remark, that 'possibly the reasoning would not bear a very keen transcendental criticism.'[1] He does not himself stop to furnish this keener criticism; but doubtless its principle is contained in the previous parenthetical intimation, that as Art and Reason come from Nature, Nature cannot come from Art and Reason. On the validity of this rule everything depends. If it be true that, prior to existent nature, all art and reason were impossible, *actum est*,—the question is settled as soon as stated; and nature must look out for some origin unlike all that it contains. But

[1] Kritik der reinen Vernunft, Ros., ii, p. 487. See also the same objection advanced in Harriet Martineau's Autobiography, ii, 334: 'I had learned that whatever conception is transferred by instinct or supposition from the human mind to the universe cannot possibly be the true solution, as the action of any product of the general laws of the universe cannot possibly be the original principle of these laws.'

(1) The rule is so far from being self-evident that it is a perfectly arbitrary dictum, the contradictory of which is equally easy to believe, and has actually been believed by the immense majority of philosophers in every age. What does the rule affirm? that *in Nature* there cannot possibly be anything homogeneous with what was *prior to Nature*; the mere fact of its being an effect removing it *in aliud genus* from its cause. There is scarcely a causal speculation in the history of the Schools which is not pervaded by precisely the opposite assumption, that effect and cause cannot be heterogeneous;—an assumption formulated by Empedocles, 'that like is known by like, and that things exist by their first elements,'[1] and of wider influence in philosophy than perhaps any other maxim which is without pretentions to be a first truth. I claim no advantage for it over its rival; their co-existence proves that neither of them is self-evident; both are, I believe, mere dogmas, which may be left to settle accounts together in the struggle for existence.

(2) If what is prior to Nature must not be supposed to be like what is in Nature, the rule applies not only to Art and Reason as exercised by man; it equally forbids us to carry out beyond the world *any kind* of mundane cause, and explain the genesis of things by its analogies. If *intentionality* in us is a product of Nature, so too are the automatic instincts of animals, and the vegetative processes of plants, and, lower still, the chemical and physical laws of change which would be there though life were not; and these are placed under the ban of the same disqualification which affects the argument from design. With the religious theory, therefore, all other speculations respecting the origin of Nature also are swept away; and no biomorphic or hylomorphic doctrine can raise its head against the decree of Kant. It is, in short, not directed against Theism in particular, but is a decree of general agnosticism, limiting

[1] Γινώσκεσθαι τῷ ὁμοίῳ τὸ ὅμοιον, τὰ δὲ πράγματα ἐκ τῶν ἀρχῶν εἶναι. Arist. de An. I. ii. 7, quoted from Plato; cf. I. v. 1, ad init.

the idea of Causality to the sphere of natural phenomena. It is not that we must not answer so and so respecting the cause of the world; but that the question itself respecting its cause it is forbidden us to raise.

(3) Suppose Kant's rule to be valid: then we cannot admit the possible existence, before Nature, of any such cause as we find in Nature; in particular, the possible existence of Mind. If then there *really were* a supreme creative Intelligence, it follows that his existence would be inaccessible to our recognition: our Reason, simply because it is Reason, would be an organ, not for apprehending, but for missing, his being; and the truth would be lost through the constitution of the very power appointed to grasp it. What can be more paradoxical than to say, that if there were a God, he could not set up a created Intelligence, except at the cost of being denied as impossible by the very faculty he imparts? He calls into being an orb of intellectual light, which, in the moment and in the very act of kindling, is fixed in eternal eclipse. This monstrous peculiarity attaches distinctively to all such agnostic doctrine. The possible *existence* of a supreme Causal Mind is in no way called in question; but the possible *knowledge* of Him *is*. The strange combination may therefore present itself, of an almighty Being who cannot reveal himself, and of an organ of knowledge that cannot know; each hindered from the other, though, through the separating veil, the Creator is ever acting in the dark, and the Creature trying with vain thoughts to press through towards the light.

Even after waiving this fundamental objection, Kant finds the argument from design inadequate. If the analogy is to hold between the works of man and those of nature, we must remember that human skill is shown in subduing given materials and moulding them to its own purposes; and to speak of *adaptations* in Nature similarly presupposes, as data to be adapted, the properties and laws of the matter used in realizing the end. These constitute a certain limit in conformity with which the idea must act; and the *art*

is shown in overcoming the difficulties which this limit imposes, and making the best of the possibilities which it allows. But to suppose this pre-existent substance as a necessary condition, and to reserve only the *form* it is to take as contingent upon the act of Will, is to leave room merely for an *Architect* of Nature, instead of a *Creator*, and to burden him with a quantity which is not subject to his ideas and variously restricts their execution. Such a Demiurge is no *absolute* God, but only a Superior Being who works under conditions; and all that can be inferred from the orderly results of his action is that he has wisdom and power *adequate* to these; *very great*, no doubt, and wonderful, but not definitively perfect and exhausting all possibility. For when we speak of what is *proportionally or exceedingly great*, we use only a subjective measure, taken from our own standard of experience and conception; and an object might earn this predicate either by its own magnitude or by our littleness; so that it indicates no more than the interval between our faculty and that which it contemplates. This relative superiority however is short of the required conclusion. We want to establish the *Almightiness*, the *unconditional perfection*, the inclusion therefore in himself of the *totality* of being, of the Author of nature; and this step from the relative to the absolute, the argument from design does not enable us to take [1].

This objection of Kant's is usually considered as two-fold, viz. that the design argument involves (*a*) the pre-existence of matter, (*b*) the limitation and relativity of God. The author however makes no such division, and aims only a single blow at the reasoning which he assails. He takes for granted that in the conclusion is to be established the existence of an unconditioned being; and as the premisses present him only under the conditions of matter, and measure his attributes by their management of these conditions, they fall short, to an indefinite extent, of the proposed result. He says that they cannot possibly be

[1] Kritik der reinen Vernunft, Ros., ii, pp. 488–490.

stretched so as to carry them over the chasm which they leave; for how can we tell what the ratio may be between the observed scale of the world and the All of Might, between its order and the Supreme of Wisdom, between its unity and the Absolute Unity of its Author? In order to pass this immeasurable interval, we must have recourse to other than empirical arguments; assuming the contingency of the world, in matter as well as form, (i. e. that it is not self-caused, and might *not* have been), we place it in dependent relation on *necessary* being, (cosmological proof); and necessary being we identify with the totality of *real* being, (ontological proof). These supplements to the reasoning from design are subject to difficulties of their own; and without them, that reasoning gives us only one or more ingenious *world-wrights*, whose relation to the whole is undetermined. What weight must we attach to this criticism?

1. The argument from design has not the ambitious aim which Kant attributes to it. It attempts no more than, by his own admission, it attains. It undertakes to show the pervading presence of intentionality in nature, where no intending creature, like man, can be supposed to exist; to find evidence of unity of idea in this intention, so far as it can be traced; and so, to exhibit a vast tissue of relations, apparently a fair sample of the system to which we belong, as having all the marks of origination from one Mind. It does not undertake to show that Mind to be *infinitely adequate*, equal to more than the cosmos, or exempt, even within the cosmos, from all conditions. To reproach it with failing to prove 'creation out of nothing' is to mistake its whole drift. To detect the working of Mind in Nature, Nature must already be there: whatever be the terms on which its material occupies the field, whether by eternal possession or by some evoking fiat, there cannot be intelligent dealing with it, till it exists; nor can Mind evince itself at all without data to engage it: it is in the manipulation of conditions, in the treatment

of problems, that the difference comes out between the stupid and the wise, the blind and the seeing; so that, if we are to search at all for *signs of thought*, it can only be amid a *scene of things*. To ask for unconditioned Mind is no less contradictory than to ask for an infinite ellipse. In proving therefore an 'Architect of Nature,' our argument attains its only end. In failing to prove the 'Absolute and Necessary Being,' it misses nothing that it seeks.

2. Though however this argument starts upon a ready-made field, to see whether Nature treats her materials with skill, it does not affirm that these materials were there from all eternity. It merely steps in when they are there, and asks no question as to how they came to be there. It is compatible with their eternal existence: it is compatible with their objective creation. Whether the intellectual Will which it now finds operative among them and moulding them to various ends had, by a prior system of volitions, called them up into Space, and charged them with their several deposits of power, is a question which is here left unapproached: in treating the form of the world as contingent there is nothing to prevent its matter being regarded as contingent too; only, the argument has to do with it at a later stage. It is not necessary to conceive of the Divine thought as having, like the human, to struggle with the difficulties of refractory *foreign* substance: *created* matter would still supply the conditions of a problem, though the limits would then be *self-imposed*. If a sculptor had power, not only to model, but to call his materials into being too, would his genius no longer have scope for exercise, and, when the statue or the frieze emerged, would it be no work of art? The only difference would be, that the total act of the artist would be divided into two, first the creation of the matter, then the elaboration of the form: though both were his, neither could the order be changed (for form presupposes matter), nor does the first in any way supersede the last. The analogy between Divine and human art does not therefore fail for the pur-

pose of our argument, though it be true that man finds, and God makes, that which he moulds to his purposes.

Kant indeed, while pressing this alleged failure of analogy, is evidently conscious that the argument from design does not exclude the creation of matter; for he remarks that if, in order to complete the case, we try that tack, we shall have to resort to a transcendental argument which has no business here[1]. Even supposing the proof attempted, does it, we are asked, really leave the process of intentionality as conceivable as it was before? Would Divine Wisdom first originate elementary substances not in themselves carrying its purposes, but leaving their realization still contingent, and then apply itself to bend these materials to its will? Does God gratuitously make difficulties for himself, simply in order to solve them? Why this circuit to the end in view, this prelude of obstacles warded off and tools constructed, when a fiat of volition would command it at a stroke? 'How,' says Professor E. Caird, 'can the Divine Being be conceived as creating a nature which has no reference to his purposes, in order that afterwards he may, by skilful arrangements, subject it to his purposes?'[2] Or, if you choose to look at matter under the opposite aspect, not as something needing to be coerced and managed into the service of ideal ends, but as created expressly with qualities for attaining them; then, where is the wonder that the end is compassed, when it is just for *that* that the means are what they are? There is no longer any difficult problem to solve when the Master of the end is also the Master of the means. Whether as resistance therefore, or as instrument, matter, if created, seems to disturb our admiration of the adaptations of the world.

The real question here raised is this: Why have any institution of *means* at all, when everything can be summoned by a 'Let it be,' and every 'end' be had at the beginning? To this question it is sufficient for our present

[1] Kritik der reinen Vernunft, Ros., ii, p. 488.
[2] Philosophy of Kant, p. 635.

purpose to answer, that the proposal to abolish means, and order up at a flash whatever was wanted, is a proposal to do by sheer will what now is wrought out by intellect; and if it took effect, no trace would remain of thought or plan in nature; what is now a scheme of unity and relation would be nothing but an arbitrary volley of dynamic discharges. It means the repeal of all law and reduction of all phenomena to incoherent surprises. Whether an intellectual being, absolutely almighty, might be expected to prefer such action by miraculous shots to the circuitous method of orderly development, merely on the ground that it was the shortest cut to the end required, I will not presume to say. But it is at the least conceivable that, where there was Mind as well as Will, the path of thought and the method of development, revealing as they do the inner reason of nature to the observing nature of man, might commend themselves rather than detached spurts of power. It is hardly correct to represent God, in setting up matter, as 'creating a Nature which has no reference to his purposes,' and which he has to subdue to their service,—as if he barricaded the track of his will in order that he might clear it. It is simply that the elements of nature have reference, not to this particular purpose or to that, but to an immeasurable range and variety in provinces of the world apparently remote: and the real ground of our wonder and admiration is, that the same provision should avail, by subtleties of movement and proportion, for the working out of such countless heterogeneous ends; so that one key is fitted to unlock a Universe of problems, and one formula may be imagined to wrap up the whole. The simple fact that, if there *were* Mind behind nature, it could no otherwise *appear as Mind*, and would altogether forfeit that aspect by an abrupt almightiness, is surely enough to reconcile our reason to the unfolding scroll of evolution. It makes the Universe an intellectual organism.

At the same time, if any one objects to the idea of *self-*

set problems, as applied to the Divine Mind, he is not obliged by our argument, though he is permitted, to regard Matter as created out of nothing. He may let it remain, if he pleases, in some form like the Platonic ἀνάγκη, as an original datum, under the conditions of which the Supreme Intellect works out its designs. *Some* objective conditions, viz. those of Space and Time, every one but the pure idealist must admit as present; and to let them carry with them also some elementary ὕλη, though involving difficulties of another kind, at least has the advantage of exhibiting the problem of the world as not gratuitously made, but really found.

3. Let us look in the face the limitations and relativity which our argument is said to impose upon the Divine Being. What are these limitations? (1) We let him organize, and not create: so he is limited by his material. (2) We attribute to him what we find in the cosmos; but we do not know the ratio between the cosmos and the totality of the possible: so he is limited by the invisible beyond. (3) We describe his attributes by *intense expressions*, *very* great power, wisdom, etc.; but these are comparative terms simply marking the depth of our wonder, and measuring from the standard of our imagination: so he is limited by our subjective capacity.

As to the first, he is certainly limited by his material; but only as in every relation each term is limited by its correlative. Causality without conditions, agency with nothing to act out of or act upon, thought with no possibilities to define, are simply contradictory conceptions: it is precisely the limiting element in them that first turns them out of non-sense into sense. The limitation moreover, were it a subject of regret, is surely the fault, not of the argument, but of the facts. Is not the organizing power in Nature limited by the constitution of matter? wherein would organizing consist, if it were not? Whether the limits are created in order that the organizing may follow, or are co-existent data, makes little difference; for though, in the

latter case, another necessary existence is admitted, it is admitted only to receive orders from the Divine Cause and afford the occasion for the victory of Thought; so that it is not the rival but the servitor of the supreme Mind. The objective world limits the Divine sway, only as the kingdom of a sovereign limits his sovereignty; that is, it is the sphere of its exercise.

The second limitation, viz. of the known realm of order by an outlying unknown, is simply that which attaches to all inductive certainty. When we call the law of death common to all organized bodies, and the law of gravitation 'universal,' we say more than we can prove, precisely as when we speak of God as *all-wise* and *all-powerful*: we draw an unlimited conclusion from a partial experience. The presence of this feature is the characteristic of all scientific generalization; and it only indicates that the inference does not lie within the compass of necessary truth. To an *a posteriori* argument this is no disparagement. If there is as little chance of the Divine Wisdom coming to an end at the confines of our experience, as of Matter ceasing to gravitate among invisible stars, we may be content for the present, and postpone our anxieties till this cosmos is done with or no longer shuts us in. To its scope all our 'universalities' are confessedly relative.

The third limitation, viz. of the predicates of God to our own conceptual capacity, is equally inevitable and equally innocent. Qualities of mind and character are known to us only by subjective experience, or by observation starting from this base: they have no possible measure except such as is taken from human life; and when we speak of them in intensifying terms, it is because, in their scale of breadth and depth, they transcend the standards with which we are familiar, and fill us with admiration beyond all bounds. Thus, our estimate of them doubtless depends, in its dimensions, on the interspace between our nature and that to which we look up,—a quantity that may grow either by the sinking of the lower term or the raising of the higher.

In all this however we have, not an accident of our argument, but the essence of all knowledge; which, being a relation between things and thought, is determined by the nature of both, and cannot be saved from varying with the faculty that seeks it. Whenever anyone pretends, by help of the reasoning from design, to escape from the egoistic factor of cognition, and to lose himself in the 'Absolute,' it will be time for Kant to recall him by appeal to 'the relativity of knowledge.' But at present the argument not only consents, but claims, to conform to the conditions of all intelligence.

II. This third limitation in our theistic conception (viz. from its subjective origin) is often thrown into a form of its own and worked up into an independent objection to final causation. To think of the universal *Cause* as *Mind* is said to be '*Anthropomorphism*,'—a word which, when once fastened upon a belief, is apparently supposed to make an end of it for everyone above a 'Philistine.' To estimate the justice of this reproach, we must fix the exact meaning of the term in which it is conveyed. 'Anthropomorphism' denotes the ascription to God of a human form and members. It is habitually charged by the early Christian apologists on the Pagan worship, especially by Justin Martyr; and in the fourth century, by the orthodox Fathers on a body of African Christians, including for awhile Serapion, the friend of St. Anthony; so that Christianity has at least claimed to be the characteristic corrector of this error. And in this it only fulfilled, as Clement of Alexandria informs us, the earlier protest of the Greek philosophy itself: for he cites the memorable poem of Xenophanes of Colophon, 'Mortals believe the Gods to be begotten, and to have senses, voice, and body, like their own. But if oxen and lions had hands with which to paint and execute human works of art, the horse would draw the figures of the gods like horses, the oxen like oxen, and would give them bodies such as their own. Thus, the Æthiopians represent their gods as black and flat-nosed,

the Thracians theirs as tawny and grey.'[1] To this type of belief the word was strictly confined, its constituent μορφή denoting nothing but bodily figure; nor did any Greek incur its opprobrium in affirming of God intellectual and moral attributes akin to the human. If Anaxagoras, who identified the active principle of the universe with νοῦς, was exiled from Athens for his opinions; if Socrates, who held fast to the Divine righteousness and the ethical government of life, was condemned to drink the hemlock; it was not that they gave the Deity too much, but that they left him too little, that was human; and if, on their trial, any charge of anthropomorphism was heard, it would be, not in the indictment, but in the defence. No words however are more sure to run out of bounds than terms of reproach: pressed beyond their limits by the strain of controversy, they lose all exactitude of thought, and become at last mere depositaries of impatient feeling. And so now you can scarcely recognize any quality, however spiritual, as common to the Divine and the human nature, without incurring the imputation of 'anthropomorphism.' With different writers, it is true, the offence begins at different points: in order to avoid it, Theodore Parker forbids us to say that God 'thinks,' but allows us to believe that he 'loves'[2]: Mr. Arnold will not allow that he either 'thinks or loves'[3]: Caro insists that he both thinks and loves, yet declares that to conceive of him as resembling and transcending such faculties as ours involves us in the mischief of anthropomorphism[4]. Prof. Tyndall has so keen a vision for this offence that he detects it even in Mr. Darwin; on the ground that, after sweeping away all reiterated acts of creation into lines of evolution, he still leaves the supreme Cause answerable for at least one '*primordial*

[1] Xenophanis Carm. Rel., 5, 6, ap. Mullachii Fragmenta Phil. Graec. i, pp. 101, 102.

[2] Discourse of Matters pertaining to Religion, B. II, ch. i, pp. 167, 168, Boston, 1842.

[3] Literature and Dogma, passim.

[4] L'Idée de Dieu, ch. viii. pp. 490, 499.

form' to start the series, and sanctions the statement 'It is just as noble a conception of the Deity to believe he created a few original forms capable of self-development into other and needful forms, as to believe he required a fresh act of creation to supply the voids caused by the action of his laws.' This residue of Divine agency is too much for Prof. Tyndall, who adds, 'What Mr. Darwin thinks of this view of the introduction of life I do not know. But the *anthropomorphism*, which it seemed his object to set aside, is as firmly associated with the creation of a few forms as with the creation of a multitude.'[1] It would seem then that if the Deity performs a free creative act, though it be but one, he becomes thereby like a man; and, to prevent this, we must get rid of the act by substituting a process of material necessity. In that case, man would be left, (would he not?) with a monopoly of free creative action. Yet the thesis which, in his Birmingham address, this deservedly popular philosopher set himself to prove was, that man can perform no free creative act, but is only an aggregate of links for the unarrested transmission of physical forces. Of originating power he has no personal experience; yet, in ascribing it to God, he is an anthropomorphist! From these examples it is obvious, that the term so variously used has become a mere vehicle for the expression of dislike; and that to estimate the grounds of that dislike, it must be defined in other and more accurate terms. It has become but too common a device, for the discrediting of reasonings imperfectly analyzed, to dismiss them with a term of contemptuous description; and I regret that even the philosophic and considerate Dr. Hedge yields now and then to this temptation; as when he speaks of Schopenhauer's view of the principle of life in Nature as 'a very opportune correction of that *carpenter view of creation* which, under the name of the argument from design, has been made so offensive by theologians of the Paley and Bridgewater school.'[2]

[1] Fragments of Science, p. 523. [2] Atheism in Philosophy, 1884, p. 81.

(1) Is it then contended that, by simply being present in man, an attribute is disqualified for being referred to God? and that nothing that we learn from ourselves can be predicated of him? This position is already met by the preceding reply to Kant. It can hardly be maintained by anyone who is content to speak of the supreme *Power* or the universal *Cause* of nature; for, as has been shown, of power and causation no suspicion even could arise within us but for our own conscious exercise of will. No mere passive being could be carried beyond the time-succession of appearances; and the energy which we read into the scene of things and which makes them not sequent simply but active too, is but the counterpart of our own. This is true, not only of the intending agency which we recognize in our fellow men, but of the automatic functions of all animal tribes, and even of the purely mechanical movements of the inanimate world: were we not ourselves an epitome and sample of them all, we should carry into the world no interpreting consciousness. There are but three forms under which it is possible to think of the ultimate or immanent principle of the Universe,—Mind, Life, Matter: given the first, it is intellectually thought out: the second, it blindly grows: the third, it mechanically shuffles into equilibrium. From what school do we draw these types of conception? from our home experience: if it is because we are rational, that we see reason around us, no less is it because we are alive, that we believe in the living, and because we have to deal with our own weight and extension, that we make acquaintance with material things. Take away these properties of the Ego, and should we ever find what they are in the non-Ego? Assuredly not. Man is equally your point of departure whether you discern in the cosmos an intellectual, a physiological, or a mechanical system: and the only question is whether you construe it by his highest characteristics, or by the middle attributes which he shares with other organisms; or by the lowest, that are absent from no physical things. In order

to mark the *differentia* of these three theories, we may certainly call them respectively *Anthropo*morphism, *Bio*-morphism, and *Hylo*morphism: but in descending from the first to the second, and again from the second to the third, we do not leave our own nature behind; we only step from its specific to its generic properties: the βιός and the ὕλη too lying within its comprehension, and rising to the surface as soon as the superior stratum is withdrawn. In every doctrine, therefore, it is still from our microcosm that we have to interpret the macrocosm: and from the type of our humanity, as presented in self-knowledge, there is no more escape for the pantheist or the materialist, than for the theist. Modify them as you may, all causal conceptions are born from within, as reflections or reductions of our personal, animal, or physical activity: and the severest science is, in this sense, just as anthropomorphic as the most ideal theology. Unless therefore we say, with Kant, that the law of causality belongs exclusively to the interior order of phenomena among themselves, and cannot be pushed back beyond their margin to their nativity as a whole, we cannot cut the tether of our personality: and *if* we adopt his dictum, it is not that we learn to speak better of origination, but that we cease to speak of it at all.

(2) If not all that is human must be excluded from the Divine, at what point does the error of the false ascription begin? By what rule shall we trace the line we are not to transgress? We must beware, it is usually urged, of assigning to God anything incompatible with his Infinitude: as all-embracing, there is nothing outside of him: as universal source, there is nothing from any other power: as eternal,—that is exempt from the conditions of time, the past and the future coalesce with the present in him, and memory and prescience merge into immediate apprehension: as absolute, he stands in no relations, but includes them all. By the application of this test, Theodore Parker clears away from the idea of God all that appears to him partial and relative,—all mental processes and purposes,—

all successive or differentiated feeling,—all discriminative reply to prayer,—all action *here* any more than *there*; leaving at last unconditioned Being, with the predicates of *Causality, Knowledge, and Love*[1]. Is it however certain that the predicates thus saved can stand the test,—of belonging to an Infinite subject,—any better than those which are discarded? Who, for example, can *love* without ceasing to be the 'Absolute' being, and entering into relation towards an object of love? How can love exist in undiscriminating 'universality,' never alighting on *this* or *that*, never other for A than for B, never changing with the changes of either, but still identically resting on opposite attributes? There is neither meaning nor value in Love that is not *selective*, *variable*, *proportionate*, sympathetic with the character and history of its object; that does not distinguish a person from a thing; the sorrowing from the joyful, the noble from the mean; that is not only 'partial,' but individual; that does not express its constancy by ever-shifting lights. A motionless immensity of complacency, that is always and everywhere alike, and loves nothing in particular, I find indistinguishable from utter neutrality, with its contents a blank, like a universal ether that never vibrates to give forth magnetism, heat, or light. Nor is it easier to reconcile the affirmation of knowledge with the denial of all 'mental processes,' and all relativity in God. To *know* is to *distinguish*; and that, in three ways; (1) an object known, from the mind that knows it; (2) what the thing *is*, from what it is *not*; (3) the features it contains, from one another. In the first, the knowing mind is itself one term of a relation: in the others, its apprehension is of relations foreign to itself, subsisting among finite things. Contrast as you may our modes of cognition with God's,—say that what we gradually learn he sees eternally, that what we separately discern he embraces with simultaneous omniscience; still, however fused into

[1] Discourse of Matters pertaining to Religion: Boston (U.S.A.), 1842, B II, ch. i, pp. 166–168.

synthesis and condensed into a *Now*, these relations must be there, if the knowledge is there: if you take them away, the intellectual act is emptied of all it holds. Whoever knows, whoever loves, knowing and loving what is *other than himself*, must so far abnegate infinitude as to leave place for a finite to stand before him: and no further encroachment than this can be charged on the special acts which Parker repudiates. The argument must go further, or stop short. It is the same with the third predicate,—of Causality. We are required to attribute to God '*infinite action or causation*,' yet no 'partial action,'—not the lamb's gentleness more than the lion's fierceness, nor the calm sunshine more than the storm. This rule evidently means that we must not except anything from his agency, but refer all phenomena alike to him: identifying the properties and forces of material nature with his causality. Nor does the application stop with the physical world: in spirit his causality is no less comprehensive and universal than in matter: and in the exercise of reason, of imagination, of affection, we are to recognize his inspiration, as in 'gravitation, electricity, growth,' his 'dynamic modes of action.' It would seem then that he is the *only* Cause: as of storm and sunshine in nature, so of error and truth, of sin and sanctity, in the world of spirit: and there is nowhere any faculty to resist him, any object to arrest or modify the flow of his power. Short of this, the causation is not infinite and universal, for something else stands up and makes good its ground, and claims a part in the effects that crowd the field of time. But the old difficulty, of the co-existence of the finite and infinite, returns upon us here. If *One cause* is to have absolutely all to itself, nature and man vanish into it and disappear: there is no longer matter to be moved or mind to be inspired; both are but parts of the mover and inspirer, functions of himself with which he eternally plays: reflex movements circulating within a being that is agent and patient at once. These metaphysical terms then, the Infinite, the Universal, the Abso-

lute, cannot, I submit, be worked as tests of the predicates assignable to the Divine Nature. If your 'infinite' covers all finites and means *Sole Subject and subject only*; if your 'universal' denies the partials and merges their distinctions; if your 'absolute' transcends or excludes all relations and what belongs to them; then, in a Being thus described, Love is no more possible than anger or pity, knowledge than memory or imagination, causality at large than action here or there.

But is not God, I shall still be asked, infinite and absolute? And if he is, must we not carry our rejections further and dismiss even what Parker saved? I reply; there are two ways of taking these wonder-working words: the Infinite, the Absolute, the All-acting may be construed monistically, as embracing and absorbing the finite, the relative, the passive; or dualistically, as antithetic to them and implying them as their opposing foci. It is in the latter form alone, as I have endeavoured to show, that they are given to our thought: the infinite which we cognize as the background of a finite is all *except the thing*: the absolute is the sphere of the relation we contemplate, *so far forth as exempt from it*: and the universal causality is apprehended by us only as that which is *other than our own*, and planted out in the non-ego, without displacing our personal activity. In all these cases, our thought holds on to a definite locus whence its survey is taken of *all else*: it sails in its little skiff and looks forth on the illimitable sea and the great circles of the sky, and finds two things alone with one another, the universe and itself: the metaphysicians who, in their impatience of distinction, insist on taking the sea on board the boat, swamp not only it but the thought it holds, and leave an infinitude which, as it can look into no eye and whisper into no ear, they contradict in the very act of affirming. Now, when kept true to their antithetic meaning, these terms no longer lend themselves to the easy magic of negation. If we have causality as well as God, there is room for saying, this sin

is ours, that rebuke is his. If for him, as Omniscient subject, there are *objects of knowledge* that have been, are, and will be, they must be present to his mind in their distinctions, their connexions, their consequences: and that which in us is memory and foresight, and apprehension of rational relations, must have some intellectual equivalent in him. If, besides himself, there exist, in a sphere left free, living persons for his Love, there are innumerable definite and variable lines of selective movement on which that love may go forth; nor need we scruple to think of it as carrying shadows as well as lights, and as hid in eclipse from our unfaithfulness, though ready to warm us again when we emerge. An infinite of which these attributes must be denied would only be inferior to a finite being of whom they might be affirmed; and where the boundary between the human and Divine so gradually fades, an intellectual, moral and affectional fulness of conception will secure more truth than the most spacious metaphysical void, where names alone can float without a meaning or a home.

(3) Though, however, the infinitude of God is not to be understood, with Spinoza, in a sense which excludes intellect, will, and affection, the scale of his existence undoubtedly forbids us to carry into our idea of him more than a few supreme attributes of our own nature. Between an eternal being and a mortal, a self-existent and one of borrowed powers, an ever perfect and a progressive mind, a will above and one within the sphere of temptation, a vast range of dissimilarity extends, and justifies the caution, if only it be duly limited, against humanizing the religious conceptions. Where the due limits are to be found will appear, when we have more fully consulted the sources of our knowledge of God. At present I am content to show that they do not shut out the attributes involved in the selection and execution of pre-conceived ends.

III. But, again, it is urged that, even if the ascription to God of causality and intellect be in itself admissible,

the particular mode of their exercise insisted on in the evidences of design is of a comparatively low order, even for a finite mind, bringing the Author of nature into the likeness, not of those who are endowed with intuitive genius and original creative power, but of the clever constructor and dexterous artisan. The former act from an interior inspiration of truth, of beauty, or of good, and surprise the world with fresh ideals; the latter are pressed by some outward want and, from the materials at hand, fit together this and that in order to relieve it. And so, the teleologist gives but a poor conception of God, when presenting the cosmos to us, not as a poem or a symphony, but as a mechanic's museum of ingenious instruments. It is an infringement of the perfection of God, says Spinoza, to suppose that he acts for an end; for if so, he is in quest of something that he wants, and confesses to an *indigence*[1]. Similarly, Mr. Mill asserts that every indication of design in the cosmos is so much evidence of limitation of power: and all the more, when there is careful and skilful choice of contrivances: for wisdom and contrivance are shown in overcoming difficulties, and there is no room for them in a being for whom no difficulties exist[2]. So, it would seem, to pursue an end proves want, to select the means proves weakness in the Divine nature, especially when the selection is particularly skilful: the greater the wisdom, the greater the weakness. The same charge is implied in the disparaging terms habitually applied to Theism by Professor Tyndall, –terms borrowed from Carlyle's estimate of the older Deism, and misapplied to the modern type of belief. He describes the doctrine as 'a theory derived not from the study of nature, but from the observation of man,—a theory which converts the Power whose garment is seen in the visible universe into an Artificer, fashioned after the human model, and acting by broken

[1] Eth. I, Appendix, Van Vloten und Land, vol. i, p. 72.
[2] Three Essays on Religion, pp. 176, 177.

efforts as man is seen to act[1]. Speaking of the nebular hypothesis, he contrasts the scientific opinion that 'life was implicated in the nebulæ' with the belief that it 'was the work of a being standing outside the nebulæ who fashioned it and vitalized it'[2]: and because Father Perrone suggested, as Babbage did, that, in organizing a constant law, the ruler of nature might institute another and slower that crossed its path with the surprise of an apparent interruption, he says that the Jesuit's 'God is obviously a large individual who holds the leading-strings of the universe, and orders its steps from a position outside it all'[3]: and he adverts, with re-iterated contempt, to the belief of his scientific compeers, Herschel and Clerk Maxwell, in a 'Manufacturer of atoms' and 'Artificer of souls'[4]. Under all their different turns of thought and phrase, these writers urge in effect the same attack; they do not object to ascribe Causal action to God: but the particular mode of action by means and ends they deprecate, as low and unworthy of a perfect being. It implies a want: it implies a weakness: it is mechanical: it is external.

(1) It cannot be denied that whoever *wills* seeks in the future some condition which is not present, and so far moves towards a better than he has. Whether the subject of this process is, *eo ipso*, chargeable with imperfection, depends upon the alternative emerging when it is excluded. Is there anything better ready to replace it? Surely, so far as we know, or can conceive, it is the characteristic of all Mind; the whole living activity of which, beyond the range of deductive reasoning, is prospective, and depends on some ideal in advance of the actual, on a disturbance of equilibrium between the present and the future by overbalance of the latter. Absolute content is motiveless stagnation, and can lead to nothing: without a better and a worse to break a universal neutrality, there can be no

[1] Fragments of Science, p. 527.
[2] Ibid., p. 547.
[3] Ibid., p. 353.
[4] Ibid., pp. 354, 355.

true and false for thought, no right and wrong for character: and a power from which they should be absent, instead of escaping from an imperfection, would be as little Divine as elasticity or weight. Divest the Supreme Cause of all consciousness of these, and of free selection among their possibilities, and what can you substitute for it, so as to retain the causality at all? Where no ideal future speaks from the front, there is only necessary force to propel from behind: for you displace the preferential for the inevitable: your 'infinitely perfect Being' cannot help himself: the thing that he does is what alone he can do; and your contempt for a machine-maker ends in setting up a machine instead.

Besides, in a continuous life, the aim at an end hereafter hardly implies an immediate need: the measure may be full for the moment, yet exhibit a possibility to come, the approach to which it may be a part of the present perfectness to prepare. It is not therefore a want *now*, but a want *then*, which comes before the Will, and which, ere it arrives, is already provided for, and disappears. We might with good reason retort Spinoza's charge, and assert that, in the Divine nature, action for an end is the eternal anticipation and prevention of need, and keeps the universe in harmony with the creative thought.

The objection, moreover, presses equally, if at all, upon every theory, not excepting Spinoza's, of the genesis of things from an Infinite Cause. If that Cause were self-sufficing *per se*, why did it come out of itself and develop a cosmos? How came it that the Absolute and Perfect divaricated into the Natura naturans and the Natura naturata? In criticising Hegel's process by which the *Idee* is conducted from indeterminate Unity through the steps, —the antitheses and syntheses,—of determinate phenomena, Schelling (it will be remembered) asked him 'what then induced the *Idee* to issue forth in this history of development, whether it was *ennuyée* with its abstract condition, and so tried the concrete?' This is the same

stricture as Spinoza's. If we admit the difficulty to be insuperable, of penetrating to the primary end of all ends, it is certainly no greater to the Theist than to his Pantheistic critics.

(2) Mill, without sharing Spinoza's objection to the *end*, finds only weakness in the use of *means*; with which, he appears to think, it is incumbent on Omnipotence to dispense. If we grant his requirement, what is the alternative which he will provide? Let the end be, to people a world through long ages with happy living creatures: how is that to be accomplished without resort to any means? Does not the very hypothesis require a world to carry the inhabitants? and inhabitants to occupy the world? and relations between the two which render life enjoyable? and, since finite natures must complete their cycle, provision for successors as the first tenants pass away? And how can you imagine a constitution given to a world, and faculties to sentient races, and a due order of birth and death established, without condescending to method and contrivance? However instantaneous the Omniscient thought, however sure the Almighty power, the execution has to be distributed in time, and must have an order of consecutive steps: on no other terms can the eternal become temporal, and the infinite articulately speak in the finite. To complain that limits are thus imposed upon the unlimited, is to forget the very essentials of the problem of creation; which is first resolved, when the unconditioned has descended into conditions, and, by self-abnegation, withdrawn from the open infinitude to the lines of method and of law. The proposal to reach all ends and skip all means abolishes the problem, instead of solving it; and, instead of illuminating it with any natural radiance, strikes it dead with a flash of supernatural lightning.

(3) Consider next the objection to treat the Divine Intelligence as in any sense *inventive* or ingenious. The grand air with which this conception is resented, and all exact reckoning of causes and effects, with foresight of the

resulting attitudes of things, dismissed with sarcasm, as something low and belonging only to the plebeian cast of mind, would be natural enough in an Athenian sophist, at a time when aesthetic and rhetorical culture was all in all, and the inductive analysis of nature was despised, and the skilled crafts which constitute the economy of civilized life were left to slaves and named by a synonym for bad taste (*βαναυσία*); but sits ill upon the modern man of science, whose highest intellectual operation is in computing the problems of physical law, of whose method delicate instruments are the indispensable aids, and prescience the crown and pride. *He* can hardly be in earnest when he affects to think meanly of the type of intellect which constitutes his class, which looks upon him from the busts and portraits of his library, and kindles his emulation as he studies the books of predecessors or fellow-labourers in the same field. With his belief in mathematical Physics and familiarity with their logical structure, he must know that the cosmos, whatever else it may be, *is* mechanical: and that to read back any one of its systems into its elementary dynamical equivalents, and from these to return forward and predict its still future phases, is one of the most admirable exercises of Reason. That which it immortalizes the genius of a Newton to interpret, as a datum for contemplation, does it degrade the Creative Mind to order and adjust, as its quaesitum? If it sullies the heavens to carry thither our calculative ideas, must we not reprove Laplace for instructing us in the *Mécanique Céleste*? You cannot take the relations which are there investigated to be *instituted at all*, yet deny that they were instituted by a mode of thought which embraced them in its pre-conception, and measured them out for the birth.

It does not follow, however, that in this process, indispensable as a method, we are to rest, as if it carried us home to the central creative impulse. The universe is a work, not only of constructive skill, but of perfect beauty; nor of beauty alone, but of wide beneficence: nor does it

only provide for enjoyment, but opens also a field for conscience and a school of discipline for all righteousness: and under each of these aspects, if we insist on separating them, with just as good a right as under the first, we may seek for the spontaneous spring of originating power. Forget, if you please, that the cosmos subsists by relations of motion, weight, and measure, and look on it as a work of sublime Art, a Divine Poem: conceive of it as elaborated from within, like a product of creative genius, owing its grandeur of rhythm and proportion, not to ingenious calculation and tentative experiment, but to the inner harmony and spontaneous insight of the mind whence it issues: it will still carry in it its countless adaptations, though they be not its inspiration but its incidents, not the germ but the fruit of its processes; just as a symphony is a complex of numerical and physical relations uncomputed by the composer: and an ode will parse and scan without being consciously built up of grammar and prosody; and a movement of living grace—the play of the athlete, the bound of the stag, the flight of the bird—exemplify a composition of forces unfelt in the impulse whence it springs. In such cases of origination, the product does indeed implicitly contain a mechanism of relations which is amenable to a calculus: i.e. were it not susceptible of decomposition into elements correct in their order and proportion, it would be no expression of intelligence: but the originating act may be one and indivisible, with no explicit reckoning of its contents, no delay till all their possible problems have been worked out: an intuitive truth of affection, hiding in the beauty of end the accurate but uncounted store of means. But when, in illustration of the genesis of things, you have made the most of the analogy to the operations of human genius in the fine arts, you cannot still escape all recognition of mechanical skill. In the labour even of a Phidias there is a stage when the chisel and the drill do the work of the journeyman stonemason; and to give shape to his inner idea, every ποιητὴς

must be a *δημιουργός* also: but where the product, besides its use of fitness, has its beauty and its meaning too, we take the higher thought to be the dominant, and though we may analyze the rules and process of its material formation, do not cease to regard it as a creation that is divine.

(4) Finally, is it true that in acknowledging Design we separate the Designer from the world, and leave him 'standing outside'? Why not *inside*? What hinders a ubiquitous indwelling power from consciously taking such lines of direction, such modes and proportions of activity, as may realize a system of pre-conceived ends? 'Plant,' says Aristotle, 'the ship-builder's skill within the timber itself, and you have the mode in which Nature produces': 'or, better, take the case of a physician healing himself: Nature is just like him'.[1] Theism is in no way committed to the doctrine of a God external to the world, but is at liberty to regard all the cosmical forces as varieties of method assumed by his conscious causality, and the whole of Nature as the evolution of his thought. However wrongly defined may have been the spheres of the Universe and of Himself, they have, in no religious theory, been held to exclude each other. The presence of God in the world, even when invested with the least significance, has detained some little sanctity within the realm of material things: and though separate existence and a sort of self-action have been often attributed to their *Laws*, yet room has been even then reserved for what was called the *Concursus Divinus*, without which, it was believed, the secondary causes would come to a stop. To go thus far, however, in the disarming of secondary causes, is hardly possible without advancing a step further and giving them their discharge from the physical world altogether: and accordingly, religious literature has been largely imbued with the doctrine of 'continuous creation,' maintaining that, from moment to

[1] Phys. L., ii. 8, sub. fin.: Εἰ ἐνῆν ἐν τῷ ξύλῳ ἡ ναυπηγική, ὁμοίως ἂν φύσει ἐποίει . . . μάλιστα δὲ δῆλον, ὅταν τις ἰατρεύῃ αὐτὸς ἑαυτόν· τούτῳ γὰρ ἔοικεν ἡ φύσις.

moment, nature is withheld from non-existence only by the same fiat as that from which it came. The belief in final causation has nothing whatever to do with the *seat* of the intending Mind within or without the objects which it directs to their ends: and why a supramundane Disposer should be obliged, in order to carry out his purposes, to absent himself from the scene and succession which he orders, and 'stand outside,' is altogether unintelligible. Is it that, in order to act at all, he must have something *other* to act upon, something therefore *separate* from himself? This need of a dualism is a difficulty which equally besets every theory of the originating power, and belongs no more to the Theist than to the Physicist or the Hegelian. It is no harder to understand how a transcendent Mind should set forth an object of its thought, than to conceive of a blind homogeneous Force splitting into itself and its opposite, or of the *Idee* issuing from itself to become *other*. Nor does intelligence require, in order to gain an object, to give it *externality*: we can think of whatever is away from us *in time*, the images, the plans, the reasonings, of any moment no longer present, though they lie within the compass of our own history: and so, if you throw the order of Nature into the life of God, you do not on that account disqualify it for being the object of his intellect and will. I admit indeed that, in order to secure a consistent Theism, this Immanency of God must be subject to two reservations: (1) it must not annex and absorb the faculties of created minds, but leave room for their personality: (2) though pervading the rest of the world, it must not stop at the cosmical limits, but spread beyond them as an infinite sea of possibilities, other than the realized legislation of reason, righteousness and love. These reservations, however, hardly touch the theistic view of Nature, the caricature of which by inconsiderate critics I am seeking to correct.

IV. A more serious objection to the teleological interpretation of the system of things I have reserved to the last. The plausibility of teleology depends, we are told, on our

exclusive attention to picked instances, which successfully simulate the characters of intention: but it is not these alone that ought to be cited as witnesses: we have only to enter another compartment of Nature, and we shall find them not only unconfirmed, but contradicted. Numerous cases are adduced of natural arrangements which attain their ends so clumsily as to leave but a poor impression of their originating intelligence: or, worse, which work such mischief as can never have been an end to any intelligence at all. These cases undoubtedly demand a patient estimate. We have no right to exercise an appreciative judgment on the methods of nature, yet resent the criticisms of inculpatory observers as presumption and impiety. At the same time, we must bear in mind the real position of the argument, and not suppose that the positive marks of intention and intellectual method can be cancelled or neutralized by any appeal to inexplicable or seemingly opposite instances. Even if they implied the absence from them of intelligent causation, they do not withdraw it from the field which it already occupies; but only embarrass us with the problem, how it is that the Disposing Mind, conspicuous through so vast a range, has not left its vestiges everywhere. The clear is not set aside by the obscure: and if the utter helplessness and absurdity of the hypothesis of fortuitous concurrence in the face of well-understood natural order have been established, the threatened sufficiency of final causes to account for a residue of ill-understood and exceptional phenomena will add nothing to its competency. What is shown is simply this: that there are some facts which do not rise high enough to escape the grasp of a low theory. These things premised, let us look at the alleged miscarriages of Nature's plan.

(1) Complaint is made of several *useless and unmeaning* arrangements. Even in the inorganic world, faults have been freely pointed out by scientific critics from the time of Empedocles to that of Comte and Mill:—on our earth, the surrender of the polar regions to ice that never melts

and of the equatorial to heats that never cease to parch; and of enormous areas between, to barren deserts and inhospitable seas; the recurring desolation of fertile lands by earthquakes, volcanoes, and hurricanes; in the moon, the absence of atmosphere and water, its one-sided gaze upon the earth, its awkward periodic time, tantalising us with scanty glimpses of its face; in the solar system, the great gap between Mars and Jupiter, given up to petty asteroids, of which you could survey a sample in a day's walk, and half a dozen, if they were worth anything, might be sold in an auction-room in a single lot; the excessive heat of Mercury and cold of Neptune; the fifteen years of alternate night and day near Saturn's poles; the progressive cooling, contraction and resistance which must reduce the whole to a dead mass; and, throughout the stellar regions, the enormous waste of space unclaimed by worlds, and of light diluting itself through vacancy. Advancing into the organic kingdom, we are reminded of organs, like the spleen, and some glandular bodies, which have no assignable function; or which, like the wings of the ostrich, and the feet of the sloth, and the branching antlers of the deer, perform their function ill. And again, it is asked what meaning there can be in organs never developed in the animal that bears them, but only *representing* such as other creatures have in active use. The embryo whale, for instance, carries teeth in the upper jaw, though, when grown, he 'has not a tooth in his head,' and even in embryonic birds, traces of teeth are said to be observable. Numerous insects that never fly have a pretence of wings, sometimes glued down under the cases which cover them. The muscle under the skin, by the twitching of which a horse throws off a fly, is traceable also in man, though he has no power to use it. And in the males of most mammalia, the breast is furnished with the mammæ which have their function only in the other sex.

Facts of this kind may fairly enough be called *unmeaning*, if no more is intended by the phrase than that we

do not know their *raison d'être*; and *useless*, if, in order to try them, a purpose is assumed which they fail to serve. On the supposition that the arctic and antarctic latitudes, that the Sahara, that the Pacific regions, were intended for the residence of man, no doubt the ice, the sand, and the salt flood are so many blunders. If the laws of heat which determine the currents of the atmosphere and work in subterranean depths, have no end but to secure the tiller of the soil in his dwelling and his crops, they certainly incur a failure in every outburst of Etna or Boreas. Are the satellites to be criticised as lamps alone? then, it must be admitted, they might, by dispensing with their phases, have given more light. But by what right do we judge a solar system from a mere geocentric, nay, from a purely humanistic point of view? Look at its age, its scope, its history, its relations to innumerable systems vaster than itself; and say whether the last comer on one of its planets is entitled to measure the ends which it embraces by his particular needs. Included though they be in the whole, what part of it are they likely to occupy? If it be anthropomorphic to admire an arrangement of Nature because it is useful to man, is it less anthropomorphic to condemn one because it is useless to him? No considerate Theist imagines Man to be the central object of the universe, by the standard of whose requirements all things are to be judged: even if he did apply this narrow rule to the constitution of the globe on which he lives, he need hardly be much disturbed by Lucretius' bad opinion of the equator and the poles. The Roman poet, it seems, would have preferred a human estate all under culture, compact and occupied, uniform in temperature, and with no more water than was needed for irrigation and for drink; with no moor and mountain to part the fields, no freshening play of ocean and air where man is not, no refrigerating winds to fling a wreath of snow, no African glow to cross over and move the Alpine glaciers; but a snug little planet, without a waste place or a wild beast, and so comfortable that it

would soon swarm like a Chinese empire or an ant hill, and no one could be alone on all the earth. This is the landscape-gardening of philosophy; from which, for my part, I gladly escape back to the wild forest or the open sea, or even the stern wonders of the icebergs and the northern lights. On Comte's proposal for improving the moon by having it full every night, I can pass no mathematical judgment: his scientific critics say it would be fatal to the satellite's equilibrium; but I confess to such a love of the monthly story of her orb from the first crescent to the last decrescent phase, that, to save it, I would accept a gaslight or even carry a lantern on dark nights.

And the further we remove from our terrestrial home, the more absurd becomes our pretension to amend the system of which it forms a part. Why fret about the leap from the orbit of Mars to that of Jupiter? What obligation are the planets under to take any notice of Bode's empirical law? And if in that great zone a stage is cleared for the circling maze of asteroids interposed as a chorus between more stately and royal orbs, how does the variation harm either them or us? What good does it hinder? What purpose disappoint? To test the measures of heat and light, the length of the day and of the year, the density of atmosphere, and the weights of things, by the conditions which are suitable here, is to forget the affluent flexibility of resource which, already handing the torch of life unquenched from air to land, and land to water, is not likely to be baffled by the passage from world to world. As for the destination of the solar system to spend its motive power and fall dead, why, if it be so, should we deem it proof of failure, any more than that the annual plant is not perennial? Finite structures may have a longer or a shorter period; but their end is attained at last; and they bear witness to the creative thought, not by their perpetuity, but by their succession. Most perverse of all appears the complaint of so much unfilled room and scattered light in the universe; as if Space were a precious bit of city building-ground, a

hundred guineas a yard, in dealing with which the architect is bound to be a very niggard in economy; and as if it cost the Creator anything to stir the ethereal waves and say, 'Let there be light!' So long as there is an infinitude to roam in, I know not why we should begrudge the universal ether some ample fields to itself; and if it is at hand, with its gift of vision to all actual eyes, it is surely captious to find fault with its luminous play upon the road, which, by a 'Here I am,' announces it ready for any others that may be possible. This kind of disaffection towards the cosmos appears to me more like the mutiny of an atrabilious temper than the expression of any reasoned conviction. Can any one who appreciates the ratio between himself and the universe feel competent to criticize that between the solid matter and the free spaces of the world? Can he claim such a grasp of the whole tissue of relations as to undertake its reconstruction by cutting among its meshes and withdrawing its threads? Of single problems, looked at by themselves, it may often be easy to imagine a shorter or neater solution. But the universe has no single problems; all are under reciprocal relations and run up into more comprehensive formulæ, and to simplify one may complicate another; so that it is only under the most strictly defined conditions of possibility, and in concrete instances approaching insulation, that our reckoning avails for the estimate of method in the attainment of natural ends.

These conditions are fulfilled, if anywhere, in the field of organic existence; and to the naturalist's criticisms we are bound to listen with patient respect. His most formidable assault however upon our doctrine is yet in reserve; and so far as he merely challenges us to find a use for certain animal structures that look superfluous, he raises questions more curious than disturbing. That the functions of the spleen and of the lymphatic glands are unknown, does but leave these organs in the position once occupied by the auricles and ventricles of the heart, the pulmonary arteries

and veins, the afferent and efferent nerves; and does not prejudice the expectation of physiologists that an office will yet be discovered for them. That the spleen can be removed without perceptibly impairing the powers of life certainly indicates that it has no primary function in the animal economy; but the same may be said of the pancreas, which Nature omits till she arrives at the cephalopoda, and which may also be removed without material injury, yet which is acknowledged to be a serviceable partner in the process of digestion. Neither our ignorance of any organ, nor its subordinate duty, warrants our condemnation of it as good for nothing.

A different answer must be given to the objection founded on what are called 'rudimentary organs,'—i.e. organs of which the form is given without the function. So long as we shut ourselves up with the individual and his wants, and estimate his build by reference to this alone, it may perplex us to meet with parts which he cannot use. But Nature, far from being utilitarian only, is ideal too; and in setting up each single life takes but one step of a long history, and pursues an old type into new and modified exemplifications. The perfection which is aimed at in the individual is not unconditional, but subject to the limits of the species; and that of the species, subject to the limits of the genus; that is, the working out of a comprehensive pre-conception through its lines of capability is adopted as an end, side by side with the production of beings without defect or excess, taken one by one. These two ends, pursued together, cannot but indent and bend each other; fresh conditions demanding new formations; yet long inheritance restraining the deflections from which they arise. The great problem of animal existence is to maintain in equilibrium, under every change, the relations between the organism and the surrounding medium. This might be done, no doubt, by absolutely cancelling an organ, when the want of it ceases, and by setting up an original invention to meet a new-born need. But it may also be

done by simply leaving the superseded provision undeveloped and unapplied, and turning some existing organ, rendered adequately flexible, to larger account. The former method advances through natural history *per saltum*, abolishing, as it goes, the vestiges of affinity between step and step, and accumulating, as it were, a museum of independent patents for separate purposes. The latter, by moving *gradatim*, never drops the clue of orderly genesis, but, in giving free scope to younger forms of life, scrupulously preserves the archives of the elder time. It is impossible to deny the superiority of the latter; and it is secured by the rule that through use an organ shall be developed, through disuse shall be atrophied. This only expresses, in another form, the well-known 'Law of Economy' laid down by Milne-Edwards; 'When a physiological property begins to establish itself in a series of ascending animals, it avails itself at first of some part already existing in the organism of lower species, modifying the structure to suit the special function. Sometimes the general structure serves as a common base for supplying the several faculties with their particular instruments; at others, some part already devoted to special use lends itself to the new function; and it is only after exhausting this sort of resource that the creative Power sets up a new element in the constitution of beings of more perfect organization.'[1] Far from offering testimony against final causes, this law affords them an emphatic support. The position of their opponent is, that the use comes from the organ, not the organ for the sake of the use; Anaxagoras, for instance, contending διὰ τὸ χεῖρας ἔχειν φρονιμώτατον εἶναι τῶν ζῴων ἄνθρωπον[2]; and Lucretius arguing that

> 'Nil ideo [quoniam] natumst in corpore ut uti
> Possemus, sed quod natumst id procreat usum.'[3]

[1] Introduction à la Zoologie générale, ou considérations sur les tendances de la Nature dans la constitution du règne animal. 12mo. Paris, 1851, p. 61.

[2] Cited by Arist., περὶ ζῴων μορίων, IV. x, p. 687 A.

[3] De rerum Natura, iv. 834, 835.

But here, in the 'law of economy,' the inverse order is distinctly established as a physiological fact: it is the function that looks out for the organ; selects and modifies it, if it be there; and if not, builds it and incorporates it in the type; completely justifying Aristotle's position, in answer to Anaxagoras: *εὔλογον δὲ διὰ τὸ φρονιμώτατον εἶναι χεῖρας λαμβάνειν. αἱ μὲν γὰρ χεῖρες ὀργανόν εἰσιν, ἡ δὲ φύσις ἀεὶ διανέμει καθάπερ ἄνθρωπος φρόνιμος, ἕκαστον τῷ δυναμένῳ χρῆσθαι*[1]. Of this method of Nature, the phenomena under consideration are a collateral indication.

The dormant organs, called rudimentary, though not serviceable to the individual, are *remanets* of a related type, and constitute a *record* of great importance, for reading the method of Nature. Without these finger-posts, the branching and crossing roads of evolution so skilfully tracked by Darwin, would have been vastly more obscure, and the survey of the organic kingdom would have lain in its elementary fragments still.

(2) The objection assumes a graver form when it asserts that the system of means and ends in Nature includes adjustments that are *positively hurtful*. This charge presses upon Theism on two sides; impugning the *wisdom* of the creative Power; and again, the *goodness*. It is with the former only that we are concerned in defending teleology: the moral difficulty will come under consideration when we treat of the attributes of God. At present it is not the cruelties, but only the blunders, imputed to Nature, which we have to estimate. To take the measure of all the discontents would be as little possible as to fill the vessels of the Danaids; but a sufficient sample will be afforded if we examine the faults found (A) with single organs of the animal economy; (B) with the law of *birth* which regulates the arrival of new beings; (C) with the law of *death* which regulates the dismissal of superseded beings.

A. (*a*) No organ has supplied the teleologist with more striking illustrations of design in Nature than the eye. It

[1] Cited by Arist., *περὶ ζῴων μορίων*, IV. x, p. 687 A.

commends itself to his selection not only by its wonderful performance as the inlet of almost boundless knowledge, and the revealer of more than half the beauty of the world, but by its close resemblance to the most refined instruments invented by human skill, some of which seem to attain their end by externally reproducing the adjustments already exemplified in its interior. Yet the investigations of the last half-century are said to have detected so many faults in its structure as to show that the admiration bestowed upon it was misplaced. Instead of being an instrument of precision, it is inexact in all its indications. (1) It has a chromatic aberration, which breaks up the white light as it passes, and fringes objects with violet tints. (2) It has a spherical aberration, which prevents some rays from hitting the proper focus, and confuses vision by astigmatism. (3) Its lens, composed of fibres with six diverging axes, *radiates* the passing light, breaking the point of each star of the sky into divergent beams. (4) Neither its lens, nor its humours, are perfectly transparent; and the latter have floating specks which, in certain conditions, have all the effect of dancing insects, and occasion the malady known by the name of the *muscæ volitantes*. (5) Its retina has a blind spot that bores a hole, as it were, in each of the two fields of vision, only not in the same place for both. (6) A network of blood-vessels stands a little in advance of the sensitive retina, and casts shadows upon it, interruptive of pure vision. (7) The centre of distinctest vision,—the yellow spot,—is less sensitive to faint light than the other parts of the retina; so that just where you are looking, there is always arising a comparative dulness of impression. After enumerating the first three counts of this indictment against the eye, Helmholtz makes this comment: 'Now it is not too much to say that if an optician wanted to sell me an instrument which had all these defects, I should think myself quite justified in blaming his carelessness in the strongest terms, and giving him back his instrument. Of course I shall not do this with my eyes, and shall be only

too glad to keep them as long as I can,—defects and all. Still the fact that, however bad they may be, I can get no others, does not diminish their defects, so long as I maintain the narrow but indisputable position of a critic on purely optical grounds.'[1]

We owe so considerable an advance of our optical knowledge to the admirable researches of Helmholtz, that it may seem ungracious to abridge the honours which he claims for recent science in this department. But when he asserts that the defects on which he comments have been disclosed by investigations 'chiefly during the last ten years' [i. e. prior to 1872], I must observe that they were familiar to his predecessors, and are mentioned by Brewster in writings nearly half a century old. In his treatise on Optics (1831) he describes most of them; and though he speaks of the spherical aberration as corrected by the unequal density of the lens, he declares the eye to be chromatic, and enters at considerable length into other of the defects[2]. The same is true of Dr. Roget's Physiology, published in 1834[3]. And in his larger work, Helmholtz himself gives an account of the researches, as far back as 1801, of Dr. Thomas Young, on the spherical aberration of the eye, and the star-like diffraction of light transmitted through it[4]. If therefore the older physiologists thought better of their eyes than is agreeable to the modern estimate, this is not due to ignorance of the defects now emphasized; but rather to a temper somewhat more loyal to Nature than is usual in our cynical age.

In estimating a charge, against any contrivance, of failure to answer its end, we must start with a clear conception of that end; else we may measure the means by a false or

[1] Popular Lectures on Scientific Subjects, translated by E. Atkinson, with an Introduction by Professor Tyndall, 1873, vi; Recent Progress of the Theory of Vision, translated by Dr. Pye Smith, p. 219.

[2] Treatise on Optics, Lardner's Cyclopaedia, ch. xxxv, pp. 289 seqq.

[3] Animal and Vegetable Physiology (Bridgewater Treatise), vol. ii, pp. 471–476.

[4] Physiologische Optik, § 14.

variable standard. What is the problem to which the eye is offered as an answer? Within what limits does it lie? It is not required that we should count the stars of the Milky Way, or make portraits of the people of Jupiter, or classify the minerals of the moon; or, on the other hand, that we should get a view of the ultimate atoms of matter, or count the undulations of light as they fly. That we avail ourselves of the telescope and microscope to give us new fields of vision, is no imputation on the capabilities of the eye. Its functions lie between those extreme ranges of the vast and the minute, and may be perfectly performed, though shut out from these. It is the same with the precision, as with the range, of the organ; there is a degree of nicety on which it would be a sort of physiological pedantry to insist: that all distances within our field should at the same moment be equally clear; that there should never be a difference between apparent and real form; that the ocular media should have absolute immunity from the prismatic effects which have free play in the air and mists and waters, are needless demands, and would be in place only if man were an optical instrument pure and simple, without the wants and resources of a swift-moving and complex nature. The rule of Aristotle is here applicable, that, 'both in theoretical exposition and in the practical arts, the degree of precision and finish on which we insist must vary according to the subject which we are handling:'[1] and that 'mathematical exactitude is not to be looked for in everything, but only in things incorporeal (*μὴ ἐχουσιν ὕλην*); not therefore in the field of Nature; for everything perhaps in Nature is material.'[2] You do not employ a micrometer to measure calico, or send a miniature-painter to get up the scenery of an opera-house. And if the eye enables you to interpret the size, distances, and colours of objects around you, —to distinguish them by their appearance, to regulate your steps, to estimate the speed of moving things, to wield and construe

[1] Aristotle, Eth. Nicom. I, iii. [2] Aristotle, Met. a. 3, ad fin. 995 a.

the visible signs of thought, in written language and in the countenance of men, to penetrate outlying fields of space and fetch in their contents and relations for the enrichment of knowledge and the enlargement of thought, all accusations against it as incompetent to its work fall under the condemnation of Aristotle's rule.

The proof that the organ will stand this test is, that the defects enumerated, unless raised into morbid exaggeration, are known only to the scientific, and have needed the most refined observation for their discovery at all. Other persons, with healthy eyes, hear with astonishment that they see nothing distinctly, nothing uncoloured; that their field of vision is all speckled and laced over with entoptic shadows; that there is an invisible spot blotting the picture before each eye; and that of all the visible points before them, the very faintest is that which is full in their view. These are the paradoxes of optical experiment, not the statement of ordinary conscious experience. There is always something to prevent our feeling the disadvantage which the critic detects, and practically to remove it, if not scientifically to compensate it. The astigmatism, for instance, caused by the different focus of the axial and the peripheral rays through the lens would be annoying, if the organ were a fixed tube with a stiff stare: the clearness and the blur would both be stationary and would confuse the picture by their union. But, from the mobility of the eye, every peripheral direction passes swiftly into central, and takes its turn for clearness; and as the total impression is the summary of these quick successions, the indistinctness is evanescent, and the precision survives. And it deserves remark that this restless life of the organ that covers so many of its sins, is, in part at least, actually due to one of its alleged imperfections, viz. that the yellow spot, or point of maximum distinctness, is less sensitive to light than the surrounding zone of the retina; so that, if you steadily gaze at a bright point, for instance a star, it soon begins to grow dim, while smaller objects in the

neighbouring field force themselves more upon your notice. What is the natural effect of this variation of relative intensity? That you are tempted to shift your look from the fading to the brightening points; and as each in its turn visits you with the same experience, the eye is in perpetual motion, in the instinctive quest of its own most perfect sensibility. In virtue of this inequality,—the centre being distinct but faint, the peripheral zone bright but indistinct,—the imperfection of neither has time to tell upon the resulting vision: under the attraction of light, an itinerant distinctness flies over every point and, from a picture never faultless on the retina, sends an image perfect to the mind.

Similar remarks apply to all the other alleged ocular defects. They are psychologically null. It needs special and artificial adjustments to make them manifest at all, so completely are they masked and counteracted on their way to our perception. Present in technical form, they are neutralized in practical operation, and impair the eye for no service which it has to render to our life. No less than this, indeed, is admitted by Helmholtz himself; and he has done some wrong to his own final judgment, by drawing an indictment in an *optical sense*, which he has to withdraw and disown in a *physiological*. 'The eye,' he says, 'has every possible defect that can be found in an optical instrument, and even some which are peculiar to itself; but they are so counteracted, that the inexactness of the image which results from their presence very little exceeds, under ordinary conditions of illumination, the limits which are set to the delicacy of sensation by the dimensions of the retinal cones.'[1] Yet more explicitly he says, 'All these imperfections would be exceedingly troublesome in an artificial camera obscura and in the photographic picture it produced. But they are not so in the eye;—so little indeed, that it was very difficult to discover some of them. The reason of their not interfering with our perception of

[1] Popular Lectures on Scientific Subjects, p. 227.

external objects is not simply that we have two eyes, and so one makes up for the defect of the other. For even when we do not use both, and in the case of persons blind of one eye, the impression we receive from the field of vision is free from the defects which the irregularity of the retina would otherwise occasion. The chief reason is that we are continually moving the eye, and also that the imperfections almost always affect those parts of the field to which we are not at the moment directing our attention.'[1] Nay, as if entirely to neutralize his own startling censures, and, like a Jewish prophet, to wind up with words of peace, he makes concessions yet more thorough, which are none the less weighty, because delivered in the interest of the theory of evolution: '*The adaptation of the eye to its function is therefore most complete*, and is seen in the very limits which are set to its defects. Here, the result which may be reached by innumerable generations working under the Darwinian law of inheritance, *coincides with what the wisest Wisdom may have devised beforehand.* A sensible man will not cut firewood with a razor; and so we may assume that each step in the elaboration of the eye must have made the organ more vulnerable, and more slow in its development. We must also bear in mind that soft watery animal textures must always be unfavourable and difficult material for an instrument of the mind.'[2] Since, therefore, the instrument which, a little while ago, was handed back to its maker with a good rating for his bad workmanship, is now returned to us in a state worthy of 'the wisest Wisdom,' we may consider the case against it closed, and withdraw it from the court under cover of so honourable an acquittal.

(*b*) Another instance of unskilfulness in Nature is cited with more effect. 'Can we consider,' says Darwin, 'the sting of the wasp or of the bee as perfect, which, when used against many attacking animals, cannot be withdrawn,

[1] Popular Lectures on Scientific Subjects, p. 224.
[2] Ibid. p. 228.

owing to the backward serratures, and so inevitably causes the death of the insect by tearing out its viscera?'[1] Darwin himself suggests that this is a case of a misapplied tool, diverted to a purpose foreign to it, and not yet sufficiently modified to fulfil it well. Originally the organ was *a drill* for cutting grooves in wood, like the ovipositor of the saw-fly, and the poison was the corroding liquor dropped into the groove, like that by which the gall-fly produces the tubercle upon the oak. For the purpose of such work, the barbed teeth would answer well; but when the instrument that carries them was tempted, by the exigencies of war, into use as a bayonet, they proved fatal alike to the defence and the attack. It may be expected, I presume, that, in course of time, natural selection will get rid of the teeth; some insects being born with the fortunate variation of a smooth-edged sting, and conveying the improvement to the species through their advantage in the competition for existence. If so, Nature is at least working out a perfect result, and has already in view a true adjustment of means to ends; and it is only because we are in the workshop with the unfinished product, and are watching the conversion of one tool into another at the half-way point, that we are unable to recognise her skill; and the complaint will be, not that her work is bad, but that it is long about, notwithstanding the provisional suffering which is involved in the delay. The objection thus moves off from the teleological problem and falls into the moral question of the existence of evil. Leaving it there, we shall, at least implicitly, meet it again.

But meanwhile, without resorting to Darwin's genealogy of the sting, something may be said to stay the hasty judgment with which the implement is threatened. Is it true that the wasp or bee that uses its sting commits suicide? In particular cases, no doubt it is so; but naturally enough, they have been observed chiefly when men or their domestic animals have been the objects of

[1] Origin of Species, ch. vi, p. 202.

attack; and from their thick leathery skin it may well be difficult to withdraw with impunity the jagged hair-like needles which compose the weapon of these insects. Though however they pierce it to the depth of one-twelfth of an inch, they are even here often extricated with safety. But it is not against such giant enemies that the armour of these little creatures is for the most part provided; but against the foes of their own household. A hive, though a model of industry, is not exempt from the passions and perils of war; nay, its economy, utilitarian as it is, includes some scenes of severe fighting. If an old queen dies, chambers are built in which several candidates for the royal state are nourished and imprisoned till the fitting age; and then the strongest of them stings all the others to death, and reigns unquestioned. Of course, she has kept her sting. So, when the hive has been deserted by its authorities and thinned by successive swarms, a competition arises among the royal ladies for the sovereignty over the remaining elements of the state; and is determined by survivorship of battle, the crown being awarded to the most triumphant sting. And again, after the swarming, there regularly occurs a general massacre of the drones which, having no weapons, terminate, like defenceless aristocrats, their large and leisurely existence, at the hands of the industrious neuters. On all these occasions it is obvious that the assailants do not sacrifice themselves; so that, in all the constitutional use of their stings, the bees appear to be perfectly safe; and it is only when they sally forth to war against monsters and Titans, that they are liable, like our hunters of elephants or fishers of whales, to be punished for their temerity.

With these illustrative samples of criticism addressed to particular organs I must be content: they are fairly representative; and nothing would be either gained or lost by pursuing the same type of difficulty into new instances. I proceed therefore to consider a more general criticism, affecting

B. The law of birth which regulates the arrival of new beings; whether (*a*) of individuals, or (*b*) of species.

(*a*) In the former of these relations, a protest seems at first sight to be justifiably made against the enormous over-provision for replenishing the world. Looked at in itself, the apparatus in the flowering plant or tree for continuing its kind in the next generation comprises a marvellous series of adaptations. So delicate and elaborate a mechanism seems computed for the fabrication of some costly product, worthy of the most scrupulous care. With amazement we observe that, of the blossoms which open, a vast proportion drop without fructification; and, of the seeds that are matured and scattered, millions perish for one that takes effect; and again, of those that begin to germinate, only a scanty few carry their history any further. The brilliant promise appears to vanish in general frustration; and the nicest of economies, to inaugurate the wildest waste. It is the same with animals: their fecundity, especially in the lowest types, apparently amounts to a frightful excess. Within a year a single Aphid (lanigera) will be the progenitor of a quintillion (1,000,000,000,000,000,000) of descendants. It is impossible to look at a herring's roe, and to reckon from it the increase promised by a single shoal, without wondering how long the sea will hold the countless multitude. A duck will lay in a year nearly a hundred eggs, and the goose about thirty. Even among quadrupeds the provision of successors is profuse; the offspring of a rabbit amounting to upwards of thirty, and of the sow to half that number in a year; and even with animals whose annual produce is limited to one or two, the rate of increase overshoots the requirements for adequate maintenance of the race. Of all these preparations for life, only a small portion can fulfil its apparent end; the rest is cut short and sacrificed. In such disproportion, in such doing and undoing, is it possible, it is asked, to trace any purpose of wisdom?

In treating of this difficulty as bearing on the animal world, I shall at present put out of view one of its elements, viz. the pain of multiplied deaths; the consideration of the law of death being reserved for our next head. The premature extinction of organic beings we may well contemplate as if it were the same for animals as for plants,—an observed but unfelt failure of the end expressed in the organism.

Now, when we are offended by the superabundant genesis of things as so much *waste*, we forget that *Nature has no occasion for parsimony*, and that it is only in our finite economy that a close reckoning of resources acquires an appropriate place. With Plato, the crowning glory of the creative Power was its '*ungrudgingness*'; and if, in tenanting the elements with life, a liberal margin was left for its possibility beyond its actual range at any moment, it expressed the large thought and ample readiness of the Maker, without harm to any creature that he had made. With all the copiousness of supply, there are times, in the history of every species, which so reduce it here and there as to threaten it with local extinction, were it not on the average superfluously prolific; for the physical laws of its abode are not made for it alone, and in working out their more comprehensive ends may often bear hard on its particular interests, and sweep its promise away by frost or wind or flood; and then it is that, by moving forward its reserves, which else would never come into play, it saves the field. And at seasons when they are not wanted, why should we grudge to the forest its rich carpet of superfluities—the beech-mast, the acorns, the fir-cones, the whortleberries and the bracken, that are content to give their variegated pattern to the grass before they die? Would you prefer to count out the exact number of seeds and spores that are destined to become adult, and prohibit all the rest? Is it possible to apply a more niggardly conception than this doctrine of waste to the universal Cause? It is worthily answered by Madame Dudevant when she

says, 'Dirons-nous que la floraison exubérante des arbres à fruit est une erreur de la nature? La nature est prodigue, parce qu'elle est riche, et non parce qu'elle est folle.'[1]

But again; it is a mistake to treat as a failure every germ that misses its development into an adult specimen of its kind. This is no doubt the *internal* end towards which its own constitution tends. But it is not a solitary unrelated object, set up for itself alone; and over and above its internal end, it has *external* subserviencies to the needs of surrounding forms of life. Every grain of wheat is a seed, capable of raising a new plant; but who would be offended at the miscarriage by which it finds its way into a loaf of bread? Does this frustrate, or does it execute, the purpose of Nature? It is plain that the provinces of the organic world constitute a scheme of interdependencies, and that the measure of each is taken, not by any rule of self-sufficiency, but by reference to the equilibrium of the whole. The subsistence of animals hangs, directly or indirectly, on the vegetable kingdom; and is simply contingent on the surplus of seeds and fruits beyond the requisites for reproduction; so that the 'waste' of the plant-world is the economy of the sentient. The same law runs through the various groups of carnivorous creatures: each lives upon the surplus of some prolific race below, and for the life that is sacrificed there is substituted other that is saved. Whatever may be said, *from considerations of humanity*, against the system of *prey* (and of this we shall treat hereafter), it thus escapes the charge of breach of promise; for, of two ends that are combined in the same nature, it disappoints the one only to fulfil the other. Nor should we entirely disregard yet a further end which is incidentally realised by this method; viz. the investiture of the world with a glorious exuberance, furnishing it as a majestic palace with endless galleries of art and beauty, instead of as a cheap boarding-school, with

[1] Nouvelles Lettres d'un Voyageur, Lettre III. Le Pays des Anémones, p. 40. Œuvres complètes, Paris, 1877.

bare benches and scant meals. How much of the splendour and significance of Nature depends upon its fulness,—upon the irrepressible rush of life into every open inlet and over every surface newly spread! Would you have the teeming elements less hospitable? The waters you could not keep empty, unless you boiled them; or the air silent, unless you froze it; or the rock naked, unless, like Hannibal, you dosed it with vinegar: invisible candidates for growth and movement and voice will steal in and soon crowd the most guarded solitude. The gardener may be vexed with the indefatigable weeds upon his trim beds; but were the wild plants fewer and less persevering, where would be the careless hedge-bank and the mossy wall? He may vow vengeance upon the nests that harbour the pilferers of his fruits; but who would purchase the richest table at the cost of an air less musical? On sultry days we are sometimes provoked by the vivacity of creation; but he who would indulge his languid mood, and cannot throw his heart into the jubilee of the strong sunshine, should certainly not go abroad when summer is at full tide. Nature will be jealous, if, when pretending to seek her haunts, you after all want only to retire into yourself. When you bask in your boat upon the lake to compose a sonnet or work out a problem, she startles you with gleams of silver and golden scales that open the perspective of the waters on which you float. When, like Phædrus, you carry a book under your cloak as you stroll by the Ilissus, and think to master it, cooling your feet in the brook and your head under the shade of a tall plane, you soon find, unless a Socrates is there to steady you, your philosophy chirrupped away by the grasshopper and your reverie exploded by the flash of the dragon-fly, with a thousand other peremptory hints to quit your own interior, and mingle with the gladness of the world. When the greedy axe has performed its massacre and left only the graveyard of a forest, and the tangle of brushwood has been consumed by fire, the industry of Nature begins again: new families of

plants, never suspected to be there, seize upon their chance, and spring into the vacated place, quickly followed by the old ones, waking again into life at the competition. It is this vital elasticity of Nature that gives to even her untracked solitudes the double interest of a picture and a history; and were its tension slackened, her communion with our inner life would lose its vivid charm, and her voices would speak to us in muffled tones.

It will perhaps be admitted that the surplus of lower forms of life is fairly explained by the law of subsistence which makes one tribe the prey of another. But what are we to say of the same phenomenon in human kind, where we still meet with infant promise nipped in the bud, and every gradation of intercepted development? What external use can here compensate for the failure of the internal end, where the lute is broken ere the strings can play? This question runs up so much, in quest of its answer, into the *moral structure and discipline* of this life, and the prospect of another, that, in the present connection, only its secondary aspects can come into view. The fact that really troubles us here is not the exuberance, but the severity of Nature; not the superfluous births, but the 'premature' deaths: the evil we deplore is, that life, having once begun, does not fulfil its course, but leaves the major part of its possibilities in embryo. This evil, it is evident, is wholly relative to a pre-conception of our own: but for *our expectation* of a certain term to follow, the allowance that precedes would be acceptable, and while it lasted, no grievance would be found: it is the imagination of seventy years that measures the loss, when only three are given. Were there a short-lived race, triennially replaced, its members would receive the same notice of departure without disappointment or special complaint; just as now we lay down our burden in peace, without begrudging Methuselah his centuries. If, without offence, *races* may be of various longevity, from diurnal to millennial, why may not individuals too? The only difference is, that where the average term for the race

is not reached by the individual, he seems to incur the privation of frustrated possibilities: exclude the idea of these, and judge his case by the abbreviated standard of his actual years, and you lose the temptation to say that he has lived in vain. If each section of life were worthless except as prelude to the next, it would indeed be wasted, were the next denied. But each is good on its own account, over and above its relation to a contingent sequel; childhood is already dignified by its ends within itself, as well as brightened by its prospective outlook, and has its immediate duties besides its eager hopes; and, even short of the moral drama of existence, who can watch the play of the infant's limbs and look into the pure eyes, and doubt that there is a gift worth having in action and perception at the very outset, in the fresh answer of the sensitive nature to the light and warmth and pressure of the world? There is therefore, in these swift-passing cases, an end in the present which *is realized*; and another suggested for the future, which *is not*. If the former were there alone, all would seem well; and from the co-presence of the other, it surely suffers no harm: the momentary fulfilment is not lost, though it be not the means to an ulterior. Would you prefer to take away the suggestion of growing possibilities? would you say, 'where the human being is to have only his lustrum, let him be made upon a short pattern, and not built as if for seven decades?' You would indeed be thus saved from your disappointment; but on what terms? Not only by curtailment of your hopes, but by dwarfing the nature so precious to your affections, and rendering it less than human. Unless it carry on its face the whole assemblage of our possibilities, you cannot know *its scale*, or guide yourself to its real contents; and the tone of your love, and the reverence of your care, will be inadequate to the measure of your trust. The perfect human organism is needful, to advertise what the nature present with us really is; with what voice therefore we are to commune with it, with what embrace fold it to the heart.

It must be admitted, however, that though, in these cases of early blight, the *total end* is not defeated, there is a residue of frustrated possibility; the organism being apparently computed for a work more durable than it performs. This fraction of difficulty we shall encounter with more advantage hereafter. At present I will only add, that shortened life is by no means the only form under which we meet this phenomenon, of baffled capabilities: it repeats itself wherever, from any cause, men, be they young, adult, or old, remain with faculties undeveloped and character perverted. If we are to ask why it is that not all men become what they might be, the question will recur with equal right on many occasions not contemplated by our objector, and rise to our thoughts wherever we meet with the savage, the criminal, the selfish, the ignorant; and it is a question which would have to be reiterated without ceasing, so long as there are inequalities of level that separate us, and the ideal of humanity is anywhere unrealized. The problem therefore finally generalizes itself in this shape: how is it that, an ideal end being proposed for an order of created beings, individual members of the order are found at various grades of approximation to that end, and only a few attain the goal? And here the difficulty vanishes; for wherever there is growth, there must be gradation; wherever a final perfection, a prior range of imperfection; wherever a finite organism, functions liable to disturbance and arrest. It cannot be shown that there is any purpose disappointed; for that purpose itself is not absolute, pointedly fixed at the ultimate limit, but embraces also every partial tentative and spreads over all the lines and stages of approach. Design is not the less apparent, that sometimes we can see it only part way to its accomplishment.

(*b*) Still sharper criticism is applied to the birth-law of new species, on the assumption that it is correctly defined in the Darwinian hypothesis. Of the numerous 'accidental variations' which living organs may spontaneously take, myriads may be tried, and, for want of stable equilibrium,

quickly disappear; and those alone will stand, which give some advantage to the animal for holding its footing on the world. The co-partners in these happy changes find each other out, and start the successful families which, handing down the favourable characters, found a fresh species. Nature therefore, in stocking the earth by this method of survival, destroys infinitely more of her own work than she preserves: proceeding by blind tentatives, she makes countless failures for one hit; and though, having unlimited time for her game of chance, she arrives at what is congruous at last, it is by no skill, but by the most wasteful and destructive of processes, when compared with the selective foresight of human intelligence. 'We can no longer doubt,' says Lange, 'that Nature proceeds in a way which in no way resembles human design; indeed, that her most essential means, if estimated by the rule of the human understanding, must be regarded as equivalent to the blindest accident. On this point, no further proof is to be looked for; facts speak so plainly, and with such unbroken accord in the various provinces of Nature, that no view of the world is longer admissible which is at variance with these facts and their irresistible significance. If a man, in order to shoot a hare, fired off millions of gun-barrels in all random directions upon a great moor; if, in order to get into a shut room, he brought ten thousand keys at haphazard, and tried them all; if, in order to obtain a house, he built a city, and abandoned the superfluous houses to wind and weather,—no one, I suppose, would call such action an example of design, and much less should we suppose that in this procedure there lay any higher wisdom, recondite reasons, and superior skill.'[1]

Since Lange here speaks 'many things to us in parables,' we must beware lest 'seeing we do not perceive, and hearing we fail to understand.' Premising therefore an interpretation, I assume that the shot hare, the fitted key, the

[1] Geschichte des Materialismus, Zweites Buch, 2ter Abschnitt, p. 246, 1873.

occupied house, stand for any new species which Nature sets up, or a new organ which has been wrought out,—for the purpose of the argument it matters not which. The millions of random discharges in all directions, the myriads of wrong keys, the city of empty and tumble-down houses, represent the aimless, fumbling, wasteful activity expended by Nature on her way to the new species; and in these instances, the fact that the ammunition does nothing, that the keys open nothing, that the city perishes without inhabitants, expresses the disappearance without trace of innumerable abortions from the world. If this is a true version, one thing is plain; viz. that, in Lange's view, the Darwinian hypothesis derives the products of Nature from the protracted working of *Chance*, indifferently shaking out all imaginable combinations, till something tenable turns up; for in this idea alone we find the common point of all his illustrations. Yet the advocates of the hypothesis are in the habit of resenting any comparison of it with the older theories of fortuitous creation, and any attempt to estimate it by the recognized rules of the doctrine of chances. Professor Huxley says: 'I apprehend that the foundation of the theory of natural selection is the fact that living bodies tend incessantly to vary. This variation is *neither indefinite, nor fortuitous, nor does it take place in all directions*, in the strict sense of these words;'[1] not indefinite, 'because limited by the general characters of the type,'—'a whale, for instance, not tending to produce feathers;' not fortuitous, because arising from definite 'molecular forces residing within the organism;' not in all directions, because regulated by the laws of these molecular forces. Variation, thus qualified, is not however thereby removed from the domain of chance; for there too, within the very conditions of all problems of chance, these same qualifications are invariably assumed. Though a spilled basket of printers' types might tumble on the floor in the form of any known book and of a pretty wide range of nonsense, its possible combinations

[1] Critiques and Addresses, xi; Mr. Darwin's Critics, p. 298.

are not indefinite, but are limited by the numbers of each particular letter; nor are they fortuitous, since they dispose themselves according to the line and force of the fling, and the relative weights and positions of the types that are flung; nor do they exhibit themselves in all directions, for the law of gravitation prevents their appearing on the ceiling, and confines them to the floor. Yet this is a perfect example of what we mean by chance. It cannot begin till there are definite elements to play with; and instead of excluding determinate causes, it presupposes them in such numbers that their relations evade us and they cannot be measured, one by one, and we have to treat any single event among thousands or millions as equally possible. I could understand Huxley, if he took up the position of *denying fortuity altogether*, so as to recall the whole realm of chance within the dominion of determinism; but in saying that variation *is not fortuitous*, he either makes an unmeaning statement, or implies that there is something which *is*, and from which therefore variation is distinguished: yet, in rescuing variation from this predicate, he endows it with nothing that does not equally find place in the most unquestioned phenomena of chance. We are indebted to Lange for the clearness and force with which his illustrations bring out this feature in the modern book of Genesis, as interpreted by its most appreciative expounders.

Now the position which I will take up in answer to Lange is this: I will not dispute the Darwinian record of natural history; yet shall decline to accept the description of it given in Lange's parables. The contrast between Nature's way of working out an end and Man's is said to consist in this, that, for want of any guiding idea, Nature makes millions of failures for one hit, whilst man follows his pre-conception straight to the mark. Take then any end which has at last been reached by Nature, say, the setting up of human kind: where are the millions of failures from the midst of which this success has emerged? With what facts, actual or supposed, of the earth's history are

they identical? Are the real steps of evolution that have now advanced to man, the intermediaries between the Ascidian and Shakespeare, to be regarded as missing shots? That can hardly be, since they are the very means that have conducted to the end, and have *not* failed. Must we then turn to the other lines of pedigree, the variations which have resulted in the salmon, the pheasant, the elephant, the dog, the ape, and treat these as failures, because issuing in something other than human? This would assume that living beings can have no worth except as means for the ulterior production of man; whereas every surviving race contains and realizes its own end, whether or not it plays a part in subsequently winning ours. Perhaps then we should search the cemeteries of Nature for the vestiges of her mistakes, and class all extinct species as abortive, simply because they lost their footing in the world. Such a sentence, however, would condemn many of the probable progenitors of the existing kinds, whose very presence vindicates their ancestors' archaic place in Nature. Nor is there any reason for setting up *present* survivorship as a test of success against *past*; for all alike are but leaseholders on this planet; and the fossiliferous rocks assign to the extinct races as large a share of geologic time as those which are now living can reasonably claim. We must then, it seems, go beyond the whole natural-history record, past and present, to find these alleged miscarriages of the producing power, and seek them in some hypothetical region prefixed to the known flora and fauna of the globe; and must excuse the non-appearance of these blundered forms, partly by 'the imperfection of the geologic record,' partly by their perishable character. On these terms, they pass into wholly imaginary beings, postulated by a theory, but unattested by a single fact; and there we may leave them. Unless everything is to be condemned as abortive which, in leading to an ulterior nature, at present stops short of it, though carrying in it its own minor end, there is not the slightest resemblance between the real

process of the organic world and the senseless actions with which Lange compares it. Take the maximum of what he calls *failure* in Nature, and what does it amount to? Simply this: that a variation of organ, occurring once, does not repeat itself, but, like a personal peculiarity,—a mole-spot or a white lock of hair,—disappears with the individual; while other variations, chiming in with the present conditions of life, gain more or less persistence, and some embody themselves in permanent novelties of race. In all but the extreme case, we have here nothing but vitalities, longer or shorter; the extreme case, if useless, is harmless; and when regarded not in itself alone, but as part of a general provision for starting everywhere new possibilities of advance and enabling them to try their strength, its inutility at a particular conjuncture dissolves itself away in the beneficent intention of the comprehensive law. Evolution, rightly interpreted, sustains rather than contradicts Aristotle's principle that 'Nature makes nothing in vain.'[1]

(C.) The last objection which I need notice is drawn from the *Law of Death*, which regulates the dismissal of organized beings from the world. Did we look only at the delicate and ingenious structures of sentient creatures, we might naturally attribute them to a providing intelligence; but, it is said, when we follow these finely-finished products into their field of existence, and see how roughly they are treated there, abandoned to a host of dangers, and hustled out of life without having secured any appreciable term, we must own that Nature sets no value on her work, but by reckless desertion of it renounces the pretension to any directing and preserving thought. The more we insist on the elaborate perfection of a living organism, on the wonderful instincts that animate it, on its accurate fit to the scene of its activity, so much the ruder must be the revulsion, when we find these adaptations neutralized by the assaults of unreckoned enemies that sweep away its promise unfulfilled. Does not Nature play the devouring wolf to

[1] De partibus Animalium, i. 1: Οὐδὲν ἡ φύσις ποιεῖ περίεργον.

the very offspring she affects to nurse? Why invite the fly into a place hung round with spiders' webs? and breed the shoal of herrings, only to float into the whale's jaws? and shape the dainty antelope to be torn to shreds in the tiger's claws? And even man, with his superior power of self-protection, has yet so many exposures to fatal ills from infancy to age, that he is in bondage to the fear of death through all his years. How is this surrender of the living world to destructive possibilities or destructive laws reconcilable with the seemingly constructive care in building it up? We will consider first the case of other races; then that of human kind.

(*a*) Death is in itself simply the application to organized beings of a universal rule, that whatever takes a beginning must reach an ending too. It is the necessary correlative of birth; and to ask for the one and protest against the other is no less inconsiderate than to cry out for light that shall cast no shadow, or fuel that will never burn out. *Nature*, in its very meaning and idea, is the assemblage of *phenomena*, i. e. of what comes and goes; it consists of cycles larger or smaller, and has no infinite lines; and to be exempt from exit by the returning curve would be to transcend Nature and merge in God. Whatever *ends* therefore are pursued in Nature must be *temporary ends*, admitting of realization within the term of a limited existence; and the vanishing of that existence affords no evidence that its purpose has broken short or failed: as well might we say, because the clock runs down, that it can never have been intended to mark time. When the function has been performed for its contemplated period, its cessation, instead of disappointing, completes its design. Nor can it be shown that the design would be improved, were it possible to find some other means of renovation than by substituting new organisms for old. What alternative could be proposed? Sleep periodically repairs the waste in individual living beings, and sends them back with the full tension restored to their springs of vigour; and it has been

said that what sleep is to the individual, death is to the race. Could not sleep then, it may be asked, be made to serve all through? Might it not continue indefinitely to effect a new creation, and endow the organism with perpetuity? Be it so; the only effect would be that in respiting the old from extinction you debar the new from its birth; and occupy the field with a few persistent individuals, instead of with a constant succession of ever-fresh natures. What advantage would there be in this stiff conservatism,—this nature without nativity,—this world without young life? It is said, that it is unworthy of a product of thought not to have some decent durability, and that in the quick havoc made by death among the 'creatures of a day' there is something unwelcome to our idea of Divine Intelligence. This is to forget the relativity of time, and how small a portion of it is adequate for no small history. Nor could we charge it as a fault in a work of human art, that it lasted only for a day, if it diurnally replaced itself before it ceased to act. The skill which can secure spontaneous succession may well dispense with continuity. In the organic world therefore, Death does not baffle, but execute the design of Nature.

Though however death is no evil to the race, it is undoubtedly feared as such by the individual; and the objection we are considering gains whatever power it has by arming itself with this instinctive dread. I call it *instinctive*, because it is common to all living beings, however little capable of reflection, nay, even without knowledge of the very state from which they recoil. The wild animal's sensitiveness to dangers threatening its existence, or that of its offspring, is one of the most powerful springs of its activity; inspiring the most timid with courage, and the least intelligent with clever stratagems. It is independent of the value of life; for it asserts itself without abatement under conditions of misery, and the very writhings of torture are still a convulsive effort to live. Its intensity is greatest in young creatures that have never been witnesses

of death, and can have none of its meaning and its contrasts in their conception. There is no more marked example of an *a priori* passion,—a passion which precedes the apprehension of its object, instead of springing from it. Nor does it lose this fundamental character in presence of the higher faculties of Man. With him also, Death is the evil from which he most shrinks himself, and which he most deplores for those he loves; it is the utmost that he can inflict upon his enemy, and the maximum which the penal justice of society can award to its criminals. The fear of it it is which gives their vivid interest to all hair-breadth escapes, in the shipwreck, or amid the glaciers, or in the fight; and secretly supplies the chief tragic element in Art. Even where these effects are modified, they still bear the same testimony: if a country repudiates capital punishment, it is because Death is deemed an evil greater than we have any right to inflict. It would seem therefore that, if we are right in claiming a beneficence for Death, each individual, in conducting himself with horror towards it, is subject to an illusion, and his instincts are out of harmony with the realities of the world.

Be it so. It is the nature of each instinct to seize its object as if there were nothing else, therefore to exaggerate and overstrain it; and in following it, the living being would soon be out of harmony with the world, did not some other impulse supervene which changes his direction and restores the balance. It is by the joint action of a complex system of incentives that the just equilibrium of animated nature is maintained; and no one of them, deserted by the rest, can be expected to give the true measure of objects around. As the egoistic and altruistic affections, monstrous in their isolation, find an ethical symmetry in their just combination, so is the dread of death an indispensable counterpoise to that war of races which for ever threatens the existence of the weak. It secures a conservation of life duly proportioned to the vehemence with which it is liable to be assailed, and

equalizes the defence and the attack. Suppose it slackened in its vigilance, and every creature valuing its existence and that of its offspring at their exact worth, and do you think this mild force would preserve it from perishing? Snatch from life this fiery inspiration, and what front could it present to the sleepless foes by which it is beset? As Anger arms the unarmed and makes the weak equal to the strong, so the love of life redresses the balance of external dangers, and saves many a nature which would else collapse. It is a provision for the self-asserting maintenance of organisms long enough to complete their functions, and hand down their territory entire in the terrestrial system; and may be regarded as part of that *ascending force* that either finds a higher step of being, or clings to it when found, and by which all nature betrays its sympathy with the Life-giver. It matters not that this passion is over-provided, when measured by the standard of individual wants, and if left to itself, creates superfluous alarms: its reasons are found, not in the individual history, but in the life of the Kind, or rather of the whole family of kinds; and in the part which it plays in the economy of the world, there is no excess and no illusion; it admits as much death as is beneficent; and urges on the steps of life wherever they can ascend.

Still, it may be said, the high pitch to which this universal love of life is strung is rendered necessary only by the constant perils to which animals are exposed: it is because the destructive forces are so numerous and great that the conservative provision has to be made intense; it is therefore itself a measure of the terrors and miseries of existence. Each creature spends itself in struggles for its own protection, because all other tribes are either indifferent or hostile to it. Is not indeed all nature a shocking scene of stratagem and carnage, where the most delicate organisms are ruthlessly sacrificed to satiate the appetite of some more savage monster? If Death is the inevitable terminus of created beings, why entrust the administration of it to

such ferocious and undiscriminating instincts, that spare the immature as little as the old? Is not the predacious system which pervades animated nature more like a scramble of chance than an instance of design?

This impression is largely due to our habit of extreme interest in individual life; whereas Nature, careless of the individual, is intent only on the life of her several types of being. So long as the race is adequately secured, it seems not to matter what accidents befall its members, one by one. The rain which tempts out the worm upon the grass, or the frog upon the road, brings them under the fatal eye of the bird and the wheel of the carriage. As you walk through the wood, the life of a hundred insects depends on the tread of your foot an inch this way or that. The cock-chafer that makes the mistake of flying in a boy's face is spitted and racked to death, while his fellow buzzes merrily on his way. An unseasonable spring storm will rend a thousand nests from the trees, and strew the ground with broken eggs or lifeless broods. The field-mouse, stealing through the grass in the safe darkness, catches the night-eye of the owl, and is devoured. In all such cases, there is undoubtedly a sacrifice of single organisms without realizing their capabilities; and if it were the end of Nature (as it is ours) to preserve each of her offspring to full development, this would constitute failure. But so long as the life that drops into her bosom re-appears in new births, nothing is really lost, and her purpose is untouched by mere change of instances. The teleology of nature must be sought, not in individuals, but in kinds; and there are no examples, so far as I am aware, of *species* with habitually disappointed capabilities. Their organisms, taken as a distinct type, have had their proper place in nature, and have played out their part; and if they have become extinct, it is not without performing their office, and, ere they drop from the chain of being, leaving the link which replaces and improves their function. The only race in which there really is an apparent failure of design,

—an over-provision of faculty whose promise is constantly baulked by death,—is our own. But here, the contrast is so strong with the well realized ends of other natures, as to lift the case into a clear exception, and force upon us the conviction that the story is unfinished and has yet a sequel, and that what is elsewhere the drop-curtain is here but the lighter veil that hangs between scene and scene. Estimate as you may the value of this argument, the fact of our resort to it attests our experience that, as a rule, Nature observes true measure between her means and ends; and that where there is an apparent disproportion, it is because we see only a part, and cannot trace the unexhausted power through its later stage. Did the failure of promise occur merely in individual instances of death before maturity, we should no more draw such an inference in the case of man than in that of the cattle or birds; it would fall under the same head with the miscellaneous animal extinction which takes place under the law of prey. But the peculiarity is, that human nature itself, instead of this or that individual, carries immense capabilities and realizes small achievements, and gives the unique example of *a race* with broken hopes and unaccomplished ends. This we find in violation of all analogy; so well assured are we that organic nature never goes into any game except to win.

Apart then from this special case, Death disappoints no animal race of its proper ends; and its destructive tendency is adequately held within limits by the conservative instinct of self-defending life. Nor, as we have seen, does the unequal longevity of the several members of the same species contradict the internal marks of purpose in their creation. If, therefore, in virtue of this law, there are always organisms that have to be removed, it cannot be denied that this object is effectively accomplished by setting the different tribes of animals to prey upon one another, and filling land, air, and waters with foraging-parties, that act as the grave-diggers and scavengers of the world. What reformed method could you propose? Ac-

customed to the interposition of the cook, you object perhaps to the *eating alive*; would you then prefer that all hungry creatures should abstain till natural death 'spread their table in the wilderness?'—that the fox in the farm-yard should politely stand by till the breath was out of the old hen's body? and the weasel patiently follow the venerable rat until he drops? and the robin show respect to the worm till he was stiff and dry? Would it really be any improvement, if Nature thus played the vulture instead of the eagle, and fed on carrion instead of life? So far are we from looking on natural decay as the euthanasia, that we seldom allow our own favourite domestic animals to meet it, and think it kinder to terminate their weariness. Violent death, however terrible to witness, is almost the easiest to meet; the wounds that occasion it have no future, and without a future wounds are hardly felt; death anticipates their agony, and almost their discovery. Of some forms in which sudden death comes on, the whole experience is known by testimony of those who have emerged from their unconsciousness; and we are thus assured that in drowning, in suffocation, in strangulation, there is no considerable suffering; and these are physiologically analogous to large classes of animal extinction. The prolonged organic disturbance which we call sickness brings repeatedly during life as much animal distress as that from which there is no recovery; and where it is not prolonged but momentary, the feeling is extinct ere the pain can overtake it. Nor must we forget that the wars of nature are wars of *surprise*, and spare their victims the ideal miseries of anticipation; and *these* it is,—the care, the suspense, the love, the regretful pity,—that for us invest the crisis with a pathetic atmosphere, and swell the pointed moment into a full orb of sorrow. Take them all away, and, as with the infra-human animals, strip the fact to its mere sentient nucleus, and death becomes less grievous, it is probable, than a night of nipping frost or the day of a missing meal.

The objections therefore to the predacious law will not bear a reasoned scrutiny. That law undeniably utilizes, in the simplest way, the excess of production, and serves as its proper complement; determining the limits of each race; making the lower life, after a certain fulfilment of its own end, tributary to the higher; and, while maintaining the equilibrium of the series, rendering it consistent with a movement of continuous ascent; for it is one of the largest elements in that competition for existence which supplies the dynamics of organic advance.

(*b*) It is more difficult to make good the plea for Death in the case of mankind. For here, as I have admitted, it *does* involve a systematic abbreviation of hope, a sacrifice of power, an unfulfilled ideal, quite unlike its aspect elsewhere. On this fact we must dwell for a few moments, if we are to determine how far Death disappoints, and how far it works out, the possibilities of our nature.

Every man, it must be admitted, is capable of more than he does or becomes in this life. In amount, there is in him a reserve of faculty beyond what he puts forth, the pressure of which is the source of that sense of shortcoming which haunts all his performance. In intensity, there is a depth of affection which his personal experiences are inadequate to fill, and which, transcending the history of life, gains freedom in its poetry. In purity, there is a claim of conscience on his springs of action, in his heedlessness of which he is flung into remorse and burdened with a debt impossible to pay. If he had but time, he could repair the wastes of error and unfaithfulness; but ere his moral economy has any gains to count, the hour strikes, and his day's labour is over. His mind is not done for, when his body is; for, so far are they from always declining *pari passu*, that thought, will, affection, may be quenched in their highest glory, not only by the sudden rush of physical catastrophe, but by the last quivering movement of long physical decay. The chief sadness of repentance now unavailing, the plaintive sounds of the words 'Too late!'

are due to the fact that everything else is there—the insight, the resolve, the power—except *the time* to give it play and seize the end. Nor does the world seem without partnership in the loss to the individual. When he has trained his faculties to some high service, and turned them into finished implements of truth and good; when he has gathered into himself priceless stores of special knowledge; when he has emerged from the illusions of inexperience and his counsels have attained a balanced wisdom, he vanishes into night, and takes it all away; and whatever crisis may come, there is no one to see it with his eye, or interpret it with his voice. No new beginning can be pieced on to the tissue which he has woven and left upon the loom. Some poor record there may be of what he found or felt; but though processes of thought may be saved by words, character is its own record; and the most precious elements of wisdom have a personal evanescence which no photography can fix. So that Death, besides arresting him, robs the world also of a treasure which cannot be replaced. In general we may say, mental and moral power has a natural longevity of growth and influence far exceeding the years allowed to the physical organism. The two seem to be ill-matched together: in the human being there is a very long-lived nature wedded to a very short-lived; and to bring them into accordance, either one of the terms should be shortened, or the other lengthened. This is the allegation we have to meet.

Now, whoever complains of Death means to lament the early arrest of the physical life; his wish would be to have the short term extended and made equal to the long; so that, however persistent the capabilities of mind and character, the bodily organism should remain at their service unimpaired. Let us follow out this proposal, and see how it would work.

Something will depend on the duration which may be assigned to the longer term, which we assume as our standard measure. Are we, with Plato, to take Mind as

imperishable, and therefore its term as *indefinite*? or, are we content to claim for it only an existence that much overlaps the term of the body? If the former, the organism, to be synchronous, would have to be immortal, and absolutely exempt from waste or disaster; and *this* no organism can be. So long as we are within the realm of Nature, there is no choice except between periods less and greater; the materials for endless structures do not exist. Any receptacle which is to serve for perpetuity of being must be provided with the opportunity of change and renewal, i.e. must be subject to Death. Even the Eternal himself appears in the garment of measurable order and changeful beauty: neither the solar system nor even the stellar spaces comprising any story that is not a cycle, or any cycle that is more than the twinkling of an eye to his existence. In this case, therefore, the equalization of the two lengths is simply impossible; and to keep pace with the continuity of the one, the other must be liable to intermittency and recommencement, i.e. to the transitions of mortality.

In the other case, where nothing more is asked than a physical life less disproportioned than at present to the unspent capabilities of the mind and character, it would be possible, no doubt, to grant the prayer. The only question here is, whether the result would answer to our hopes. It would realize a very ancient human dream, that has shaped itself into an ideal primitive history of mankind; for it would give us a world of patriarchal generations, whose venerable biographies reckoned by the century where we count by the lustrum or the decade. The effect of such a change would evidently depend on the concurrent rate of growth and development in the human constitution. If it reached its maturity as soon as with us, and if the present average of annual increase of numbers prevailed, it would take but a few families to fill the world. The generations indeed in a given time would be as many as they are now; but, to an enormous extent, they would exist

together, instead of coming to the front in rapid succession. If, on the other hand, the elongated life were divided into its seasons, of childhood, youth, manhood, old age, in segments bearing the same proportion as at present, so that the whole growth and decline were *slackened*, then each generation would be no fuller than it is now, and it would require no fewer to fill the world; but the time from first to last would be hugely increased, and everything which depends on augmenting numbers would go slowly, and experience would linger.

When we picture to ourselves a society growing up in either of these forms, we must be conservatives of the deepest die if its tendencies attract us more than those of our own world. Under the first supposition, let Shem live five hundred years, and receive his first-born when he is thirty, and his last when he is four hundred and seventy; and allow him an addition of one to his family every three years. If we assume, as we must in redressing the complaint against death, that they all live, he can gather round his table on his last thirty fête-days, a hundred and forty-seven sons and daughters. Meanwhile, their life also will, in each case, have followed the same rule; which, without applying it further than to the single case of his first-born, would enrich him with a hundred and forty-six grandchildren, and if carried through his family, would increase that number to 10,731, and make up his party to 10,878. We need not carry the calculation to lower limits; its effect will be sufficiently apparent when we remember that these lower limits extend over fifteen generations; so that, if he were the Czar of all the Russias, he might be the father of his people in a sense unavailing for our mock paternal governments. The tendency of such a constitution of the human world is obvious. It would throw the societies of men into immense *clans*, which, in spite of their vastness, would be held internally together by powerful causes of cohesion. The head, living long enough for great accumulation of property, would by this

influence alone occupy the position of a *chief*; and administering his resources at will, would be looked up to by an army of descendants more or less dependent on him, and ready to serve him for the favours he can bestow. Nor is it easy to exaggerate the effect, upon the sentiments of men, of so long a personal presence which is the centre of deference and the supreme depository of experience. It would immeasurably intensify that wondering loyalty towards the past which has now to find its aliment in historical associations only. Little difficulty is felt, it is true, with our younger generation, in discarding the reverence for age; but it would be otherwise in a society where longevity, without infirmity, was the constant rule, and all the powers of life continued to mature, from century to century, a yet vigorous and capable personality. The young would indeed possess a large numerical advantage over their seniors; but this would be neutralized by their distribution in small groups under the series of fathers, grandfathers, &c. of several generations, all interested in maintaining the *patria potestas* on which the whole fabric hangs. In such a community, inherited habits, feelings, beliefs, would set into tenacious forms, as under the institution of caste; and the characteristics of a Zeitgeist, incurring but little contradiction, would last much longer than with us. In other clans, the same long existence of habit would simultaneously stereotype different sets of traits, marking them off by strong distinctions, which would keep them alien from each other, and covering the earth with Chinese centres of seclusion. Instead of the peaceful competitions which elicit the powers of mixed and equal populations, there would be always present the risk of feuds between separated and uncongenial clans. This whole assemblage of conditions would favour a stationary social attitude, and reduce to a minimum the agencies which have secured the progress of the western European nations.

Under the second supposition—that the protracted life

of men had its stages proportionately retarded and stretched —the influence of age would be still more preponderant. The young lives with which it would be called to stoop in sympathy, instead of swarming fast around it, would stir it by appeals only few and far between; and through long uniform intervals the reign of habit would consolidate itself, and while perfecting the aptitudes of art and thought by experience, would render fresh affections less ready, and unopened tracks of mental and moral movement less inviting. To new comers into the world, the old would be older, and the companions would be fewer than before; there would be a greater height to look up; and, in looking round, a scantier band of equals to give courage to the heart. Think too what would be the effect in the intellectual world, whether of science or of letters, if its brilliant stars remained above the horizon for centuries. Give Newton four hundred years in the plenitude of his powers, and where would he have left astronomy and optics on his departure? Certainly at a stage not reached by the patient labours of a dozen followers in succession. Discoveries, now widely distributed, would thus be concentrated in some great individual, who would become Master of a whole department, and in his own person constitute not simply an epoch in its history, but for a vast period that very history itself. This pre-eminence in the *Princes* of science would invest them with an overwhelming authority; would mischievously dwarf the minor contributions of less gifted enquirers, and discourage the useful questionings of dissentient criticism; and render the next great advance difficult, without something like an intellectual revolution. And in literature, what would the prolific genius of a Walter Scott have accomplished with the labour of four centuries? The capacity of libraries and the possibilities of reading would be filled by a few such claimants, whom no one could disregard and no one rival. Time is a great element in the influence of exceptional minds and strong personalities; they gradually create the tone of taste and feeling

that returns to them with reverberating admiration; and while they continue to wake it anew by their living breath, it spreads faster and further, and so loudly swells that feebler voices are scarcely heard. Thus, the tendency would be, in Art as in Science, to discourage minor aspirants, and overshadow them by successive intellectual dictatorships. And as each of these would be consolidated by a long sway, it would be little in the mood either for consideration towards any contemporary dynasty of thought, or for loyal acknowledgment of the next and perhaps reactionary reign; so that the feuds of opinion would be vehement, and the movements of advancing culture be liable to take place by uneasy jerks, if not by revolutionary shocks.

If even the guides and benefactors of mankind may live too long, what could we expect from the secured longevity of their foes and tyrants? What would become of the world, if its greatest empire were leased, for half a millennium, to a Domitian, a Philip II, or a Napoleon? With time enough to wear out the experience and almost the tradition of historic liberties, to strangle the protesting voices of the good, to drive the virtues and the arts into retreat, and muster and equip the body-guard of bad passions and pay it with corruption, such rulers would weigh as a blight upon all lands, poisoning the germs of good, and nurturing to a frightful luxuriance whatever grows of rottenness. After so persistent a sway, resting upon a cynical contempt for mankind, and appealing only to the low elements which would justify it, recoiling from no cruelty, hesitating at no perfidy, and decorating every vice, what hope would there be of a return for the exiled and forgotten humanities? It is Death alone that hurls this kind of intolerable incubus from the breast of sleeping nations; and unless it comes soon to their deliverance, they do but gasp and die. True, if it makes haste to snatch the despot, it cannot be slow to take the patriot and the sage; but we can better spare the good to die,

than bear the bad to live. When we are rid of the curse of the latter, its products will wither in the ground; from the former, there survives an essence which is imperishable and finds an endless fertility in other minds. Nay, we may go further; the abiding essence of a great mind and noble personality, preserved in his writings and example, posthumously acts, if with a weaker, yet with a purer power than could be permanently exercised by himself. For, after all, belonging to his place and age, he bears their stamp upon him, and cannot be exempt from the effects of their partial lights and refracting atmosphere: not all his wisdom can secure him from some false conjunctions of thought; not all his largeness of heart from some prejudice of feeling. With the justest attainable balance, he may be indifferent to some things which merit his enthusiasm, and fired by others that less deserve his zeal. On these mixed elements, the law of habit, which knows no discrimination, seizes, and so blends them into one vital tissue of character, that separation is impossible; and the temporary and the wrong appropriate a borrowed glory from the companionship of brilliant and unfading virtues. History, in the record of his career, posterity, in the study of his writings, can shake them free from their entanglement; but in his own person they live, and look, and speak, in unison, and wield the same authority. For his influence, as well as for himself, it is Death that cuts the tie between the mortal and the immortal. Precisely at the juncture of two generations it is, that errors and prejudices drop out, and the dead resistance of habit to new enterprizes of thought and affection falls away. However true it may be that, where the faculties are not allowed to rust, but are kept awake by constant exercise, advancing years need not induce any lazy conservatism and arrest the spiritual growth, it is impossible to doubt the retarding influence of old age; and needful though it may be, to steady the impulsive forces of younger life, it too often puts the drag upon the most beneficent advance. The

history of thought and of society abounds with instances of veterans garrisoning some citadel of error, and standing siege with more bravery than wisdom. Tycho Brahe, though a Copernican in relation to the planets, and, in applying the theory, himself the discoverer of three lunar inequalities, stood out against the diurnal and annual motion of the earth. Huygens and John Bernouilli, entangled in the vortices and plenum of Descartes, set their faces against the Newtonian physics, and struggled to accommodate the earlier hypothesis to the planetary ellipses and the lunar relations of the tides. Priestley, the discoverer of oxygen, could never let go Stahl's phlogistic theory of combustion: nor could Brewster surrender to the undulatory doctrine of light. It is not easy for these firm-set and venerable forms, however vigorous, to wield new weapons, to learn new steps, to gain expertness in a new play of thought; and their very energy prevents them from abandoning the old and quitting the field. Death then must not too long delay his discharge of these Emeriti, if the future is not to be clogged, instead of cleared, by the conquests of the Past. Even for themselves, as well as for the society they quit, is it too much to believe that it is an emancipation from clinging prejudice? The power of habit, it is probable, is rather organic than spiritual, connected with the discipline and subjugation of the corporeal mechanism to the service of the mind; and if so, it may well be weakened or dissolved in the transition which surrenders or changes the organism; the bonds may of themselves give way which constrained thought and affection into attitudes few and fixed, and, under new conditions within and without the transfigured nature, a freedom and largeness of mental vision be given, of which we have no experience. However painful it may be to be torn away from the habits of a household, the fixed ideas of a clique, the familiar sympathies of a sect, the institutions of our native country, we know that thus to cast the mind adrift upon untried currents of tendency

is a sure way to its enlargement. The youth, sent forth from his home with sinking heart, is flung into contact with other groups, whose different characteristics wake up parts of his nature slumbering before, and melt away the narrowness without abating the fervour of family affection. The devotee of a system, thrown into the midst of an uncongenial community, begins with feeling only repulsion from all that it contains; but, ere long, through its unwelcome forms, gentle humanities and noble pieties peer out, and look with a new light upon his heart; and he discovers how his party-aversions had blinded the insight of his love. The insular patriot, cast forth by ill-health or fortune upon the world, is chafed at first by every sound and sight of foreign things, and thinks he has left all good behind; but, as he grows to the scene around him, he is hit by many a happy phrase and won by many a graceful usage, and fairly conquered at last by a literature and art and national life, which reveal to him an unimagined type of human culture. The migration which thus dissipates the prepossessions of the family, the sect, the nation, we may well suppose effective against the prejudices of a world; so that Death may be but the provision for taking us abroad, ere we have stopped too long at home, and unsealing the closed inlets of wisdom, affection, and reverence, by the surprise of new light[1]. In this aspect, Death, instead of frustrating the ends of life, becomes the great arrester of ills,—the liberator of souls, for both the visible and the invisible worlds.

§ 8. *Implicit Attributes of God as Cause.*

In the foregoing sections I have aimed to set forth, and to surround with adequate protection, the first psychological source of Theism, the recognition of a living Will as Cause

[1] For further illustrations of the beneficent operations of Death, see an impressive sermon by the late Dr. T. Southwood Smith, entitled 'The Wisdom and Beneficence of the Deity in the Ordination of Death, a discourse occasioned by the death of the Rev. Thomas Howe, delivered at Bridport, Nov. 26, 1820,' particularly pp. 12–18.

of the phenomena of the world. Accepting this position as determined, we may now pass into its interior, and examine what are its contents: what it enables us to say respecting the Being whom it reports to us as an ascertained object of thought. It cannot surprise us if our reasoning on this single line carries us but a little way, and leaves us with only a restrained and colourless range of speech respecting the Author of all; for, contemplating him exclusively as manifest in the physical sphere, it reaches no more than his '*natural* attributes,' as they are called; and simply prepares the intellectual outline for the moral features which define themselves from another source. It will not of course be supposed that our mind reaches its religious faith by the successive steps into which we lay out our exposition, working its way now by one path of reflection, then by another, and enriching the results of the first by adding on those of the second. What we enumerate separately lives in us all together; but it is the necessary infirmity of analysis, to spread out in consecutive order simultaneous elements of conviction, which are but as the petals of the same flower, and grow from the concordant action of Reason, Affection, and Conscience.

To identify Causality with God is to ascribe to him *all Power*; for the terms are interchangeable. The only question which can be raised is as to the range which may be assigned to the attribute. All that we can rigorously affirm is, that it is sufficient for the production of the cosmical system of phenomena. These it is that carry our mind to their great Source; and when they are provided for, our demand for causality goes no further; and if, notwithstanding their vast amount, they are still within some bounds, so too must be the exercise of energy from which they come. From the finite we cannot legitimately infer the infinite. When therefore we speak of God as *almighty*, the epithet is, thus far, warranted only if it is content to cover *all the might there is*, and must not be understood to mean *mighty for absolutely all things*. This distinction

might seem at first sight an unimportant refinement: what more need we ask, it may be said, than the immense resources which have constructed and administered this universe? Who can conceive of more, or even strain his conception a hundredth part as far? What use could we make in our thought of any margin spreading beyond this into real infinitude? And it is true that to insist on imputing to the Divine Power a strict metaphysical infinitude is a necessity in only a scholastic and artificial sense, and, like all applications of this idea, involves us in insuperable difficulties. But, on the other hand, if we take the actual universe as the measure of God's power, we enable any one who complains of its arrangements to attribute them to weakness, and say, 'He could not have done otherwise.' Of such mode of thought we have a distinguished example in the late J. S. Mill; who was obviously inclined to believe in a well-meaning, but baffled, not to say blundering intelligence, as the Designer of the world. It is not therefore unimportant to withdraw this supposed limit from the Divine ability to effectuate a creative idea, and allow it a wider range than the present constitution of things. The means for this extension are readily afforded by the principle from which we start. All causality being volitional and selective, the line of realized action is only one out of a plurality of possibilities, and the cosmos which has come into being is but a sample of an unknown number that might have been. In its Author is vested therefore not only all operative power, but all that is conceivably or inconceivably alternative and has been left out of operation. Is this vast enlargement not enough to give security against frustration of design? Will it be said that, though other orders were feasible than that which we observe, yet there was but a poor choice after all, so that the limit, pushed back from the actual, reappears a little further on at the frontier of the possible? To that frontier then let us go, and scrutinize the mysterious boundary-line between the possible and the impossible. What is that barrier of

Necessity, on which our thought strikes, when it attempts a further step? Ideally, and *a priori*, nothing is impossible which does not carry a contradiction; and who can say that, after a scanty lot of practicable universes, you come upon nothing but contradictions? Physically, whatever stops a power must be a power itself; it exercises causality; and all original causality is identified with God, and falls within and not without his nature. The barrier therefore again gives way, and lets the Divine flood flow on and submerge the pretended empire of the impossible.

Here, however, arises another question. Granting that all original power, actual or possible, is Divine and volitional, can we be certain that it is all predicable of *the same Will*? Is there anything to forbid its distribution among a plurality? Is not the principle of Causality equally satisfied, whether the phenomena are lodged in one home or in more, provided they find a parentage? In the face of so considerable a fact as Polytheism, it may seem hasty to nonsuit its theory, as having no claim to a hearing in any philosophical court. Without attempting here any historical justification of this verdict, I will briefly state some of its rational grounds.

The psychological or intuitive principle which leads us to read a causal Power behind phenomena makes that power the external counterpart of our own. This is the constant type assumed by our thought in every instance; it repeats itself with no more variation than in the references we make of our several actions to ourselves. Nature is here but the mirror of the mind; and *Cause without* differs from *Cause within* only in the adverb of *place*: nor is anything in the Self negatived by the not-Self, except numerical sameness. Now of the personal consciousness it is the essence to retain its unity through all experiences; every issued act of ours goes forth from the same agent; every delivered phenomenon comes home to the same recipient; all the lines of self-reference meet in a single changeless centre. This feature cannot desert the Self when

externalized; there too its individuality remains; and every time that the observer discerns a living energy in Nature, and recognizes its action in some event, he thinks after the pattern of himself, and cannot help investing it with a like identity. It can no more change than the image of his face reflected from half a dozen plane mirrors at once. In each one's mind therefore, left to the play of its own laws without foreign disturbance, there is a native provision for monotheism, in the intellectual dominance of his own personality; and with whatever varieties the Divine idea may present itself in different minds, precisely in this element of Unity, it is the same in all. This datum of Nature is entitled to stand, till some writ of ejectment can be shown.

The logical rule, that no more causes are to be admitted than are needful for the effect (the law of *parsimony*), forbids us to wander beyond the all-sufficient single Divine Will. For it cannot be pretended that a plurality of divine beings increases our resources for explaining the constitution of the world. Limiting one another by their co-existence, they do not supply so much power as a universal Cause, unless they absolutely concur; and, if they concur, that is itself an additional phenomenon of which an account is required. Indeed, the weakness which the hypothesis introduces is usually admitted, and is even treated as its great recommendation; conflicting divine purposes, thwarting and cancelling each other, being resorted to in explanation of supposed discords and contradictions in the world. No one would favour such a conception, unless he felt that any approach to omnipotence was *too much for the phenomena*, and that, to restore the proportion between cause and effect, there must be a large abatement of the former. The minor force, he fancies, will give the better reason. It is needless to say, that the facts do not lend themselves to any such hypothesis: what are called the 'contradictions' of the world are not events which indicate any *conflict* or collision of independent powers, or could

be accounted for by assigning the universe in provinces to dissonant deities; they arise upon the line of the very same law which also yields the greatest harmonies; and must therefore be covered by the same Will. Nor is it possible to rest in the assumption of a plurality of self-existent agencies, each finite and all different. The whole object of philosophy is to drive back such facts into a higher unity which reduces them to comprehension; we want to know what settles their limits, what varies their contents, what counts their number, what presides over their equilibrium; in short, we cannot accept them as self-existences, but, in spite of ourselves, press upon them and interrogate them as effects; and till we subordinate them to an embracing and determining Infinite, do not reach the repose of a *Ratio sufficiens.*

The Physical Unity of Nature is no less incompatible with any partnership than with any rivalry in its production, and plainly bespeaks the Oneness of its Cause. Neither in section of its integral parts, nor in analysis of its constituent elements, is it divisible into provinces with administrations of their own. There are indeed clusters of bodies, as in the solar system, which in certain relations may be detached for separate study, and in each case treated as a whole; but, all the while, every particle in them is at play with those of Sirius and of stars invisible beyond; and through the interstellar spaces an ether spreads whose undulations, carrying messages from system to system, assume a language common to all. The light which started on its way to us before there was a human eye is broken by the prism into the same scale of colours as that which is nearest and newest born; and the vibrations in its spectrum repeat the very changes which our experiments produce from incandescent chemical elements; indicating that not our mechanical workshop and our observatory only, but our laboratory too, would be at home in any world. And if a network of universal media weaves the contents of space into one system, a running thread of

progressive history is equally manifest in Nature, and blends its successive acts in time into one drama. Imperfectly as we can read the record, even on our own planet, its geological memorials, obscure at first, work out by degrees their chronology and relations, and, reasoning towards the present, catch hold at last of the links of existing life; exhibiting an order and movement of idea which makes the knowledge of Nature not a miscellany of memories, but an articulated intellectual organism.

In truth, the very idea of a World or Universe, as a whole, is rigorously impossible, except on the assumption of a substantive unity incompatible with diverse origins and independent directions. If you define it as the aggregate of all synchronous things working out the order of all successive phenomena, you have already proclaimed its empire to be One. Or, do you think that the aggregation is of your own ideal making,—a mere verbal tying up into one name a bundle of heterogeneous objects, having nothing to do with one another beyond their juxtaposition in your own thought? So, doubtless, it would be, if they were a levee of representatives from mutually foreign dynasties: they would then have no more contact than an hour of time with a pound of weight. Instead of this, you admit in your definition that they interact. A change of position in one body is attended by change in another more exact and regular than any contract could secure. And this apparent joint understanding is but a type of the whole method pervading and constituting the universe. You call it a *relation* of its parts: but relation there cannot be between things simply detached and belonging to systems without common predicates; and *here*, the relation is one of concurrence so intimate as to make two things into one by charging them with the same phenomenon. And as with the synchronous, so is it with the successive elements of the world's story. How are we to conceive of one state of things working out another, unless they be organically united in the same whole? Can an item of fact, by prior

occurrence ever so often, make itself the ground of a determinate consequent which completes the law? Must we not rather say that the order of combination contradicts their numerical separateness, and plants them together within the essence and among the pulsations, of the same Nature? Nothing short of two or more universes would be needed, to bring within the possibility of thought more than One Divine Will as the Source of all.

These reasons surely authorise us to reckon *Unity*, as well as universal Power, among the predicates of God. One remark, however, is still due to this topic before I leave it. In denying that a plurality of Self-existences is possible, I mean to speak only of self-existent *causes*. A self-existence which is *not* a cause is by no means excluded, so far as I can see, by a self-existence which *is* a cause: nay, is even required for the exercise of its causality. Metaphysicians have made wonderful efforts to conceive of '*Unconditioned*' or '*Absolute*' causality, developing everything out of the *unit of itself*; and have gathered around them disciples in more than one school, by whom they are credited with success. For myself I must confess that these epithets carry a *contradictio in adjecto*. I think of a Cause as needing something else in order to work, i. e. some *condition* present with it; as constituting one term of a *relation*, and as being a cause only by reason of its so standing; as incapable therefore of being either unconditioned or absolute. If there be a condition requisite for the Divine Cause, it must from the nature of the case be already there, i. e. be self-existent with him. What can it be that holds this rank, and yet is not itself a cause? There are but two forms in which it is presentable to thought: either it is *matter*, to be moulded to the divine purpose; or, if we strip it of solidity, it is *Space*, ready to have forces thrown into any of its points. The difference between these two modes of conception consists in their treatment of *Force*. You cannot assume any *material* to be given, however low you reduce its properties, without leaving it

invested with *resistance*, *form*, *magnitude*,—in short with what the older nomenclature distinguished as the '*primary qualities*' of body; and as these all affect our perceptions, and modify also the action of bodies on each other, they must be regarded as endowed with force. The Divine agency therefore, when applied to turn this datum to account in the work of creation, does but contribute fresh forms of force to those which are already there; and thus power, instead of being all given to the causality of God, is assigned to a double seat, being partly in Him, and partly in matter. When, on the other hand, you cut down the co-existing datum to Space alone, you leave a pure *condition* which has no pretensions to a dynamic character; and the whole volume of Force has to ask for its genesis, and finds it singly in the Divine causality. The ontological simplicity of this hypothesis, which recommended it to Boscovich and Faraday, gives it undoubtedly a great advantage. When once we attempt the task of partitioning Force between the material and the Creator, we find ourselves at a loss for a definite line of separation between the given store and the added contribution, the necessary and the contingent elements. If we allow *solidity* to be self-existent, can we arrest ourselves there? Is not solidity conceivable as a play of attraction and repulsion? and is not their interaction the equilibrium which terminates motion? and if motion, attractions and repulsions of any kind are treated as inherent in matter, why not all kinds, resolvable as they probably are into varieties of the same? May not *gravitation* also be a function of the original datum? and *polarity* in its several forms? And so the negociation extends for the transfer, one after another, of the modes of force in Nature from the self-existent free Cause to the co-existing necessary datum; and this is possibly what is meant by the modern physicist's demand that we should radically alter our conception of matter, and far more richly endow it with unimparted properties than has hitherto been deemed admissible; putting into it, in short, at first, whatever we

require to take out of it at last. It is clear that the process, pushed to this extent, is simply a handing over to the register of postulates of all that was before derived: by flinging the whole *quæsitum* into the *datum*, it relinquishes the problem of causation instead of solving it, and retires within the relations of phenomena as if there were no cause at all. The thorough-going hypothesis of Boscovich declines the first step upon this uncertain and beguiling track; and assuming only Space which can do nothing, and Mind which can do everything, excludes all controversy between two self-existences, and leaves the total causality with God. This perhaps does but interpret into philosophical form the popular doctrine of *creation out of nothing*; for the 'Nothing' is hardly, to ordinary thought, so sweepingly negative as to bar the assumption of Space, as the eternal condition of a universe. On the side of Psychology, there are difficulties attending this theory; but if they can be overcome, its metaphysical neatness, and its effectual discharge of the perplexities of Dualism, strongly recommend it to acceptance.

It is hardly necessary, after the defence which has been offered of Teleology, to specify *Intellect* as predicable of God; for the pre-conception of ends, and the realization of them by the apparatus of appropriate means, are the characteristics of rational existence. If we give to the word 'Intellect' its wider scope, and include in it the movements of thought which result in great works of finer Art, who can deny that the creative genius of Nature even transcends its intending skill? What sublimer architecture than the dome of the midnight sky? what richer picture-gallery than the sunset effects, even on the same landscape through a single year? what more pathetic drama than the story of human life, for ever enacted on the stage of ten thousand homes? Of these, indeed, or their equivalents in Nature, all our Art is but the copy; and he is the greatest master in this field, who most patiently studies the combinations of the world, and gains the deepest insight into

their language of expression. Of all that we can know, of all that we can admire, the original lies in the universe around: *there* are the prototypes of all intellectual relations; and how can they be Thoughts in their reflection, unless they be so in their incidence? Both Science and Art among men we measure by one test, viz. their *Truth*; and what is this, but their accurate reproduction of the Methods and aspects of Nature? In the former, system after system is set aside, when its alleged laws turn out to be fictitious; in the latter, style after style is superseded, when in form, or colour, or feeling it declares itself artificial and conventional: and was it ever known that the change involved an intellectual loss—that the obsolete theory in science was a tissue of nobler thought –that the discarded type of art-production was of more majestic beauty –than the more faithful representative of reality which succeeded it? On the contrary, the highest past achievements of the human mind are, one after another, transcended in proportion as larger discovery and deeper insight reveal the scope and affluence of natural relations; and we are made to feel the childishness of our own intelligence at each new glance from the eye of the creative Reason. With what consistency can we do homage to the decipherer of Law, and see no wisdom in its Institution? and crown with bays the brow of a Dante or a Shakspeare for reading to us the poem of the world, yet have no reverence for the Author of its harmonies?

There is, no doubt, a difference not to be overlooked, between our conceptions of human intellect and of Divine. Our understanding is applied to things already given us: we perceive them, we compare them, we analyse them, we notice their grouping and their succession; till the law of their history discloses itself to us, and the map of their relations fills itself in. Our knowledge is altogether sequacious, and feels its way by a clue present to its hand and sure to conduct to its remoter end. But the Divine thought, instead of *learning*, *goes before* the objects that are

known,—invents their constitution, determines their relations in time and place, and reads their history throughout, ere they have begun to be. With this inverse mode of knowledge we have nothing to compare, unless it be the process of working out the consequences of an assumed hypothesis; and the difference still remains, that with us the hypothesis itself has to be reached by some previous induction, whilst for the creative thought it is the starting-point. These opposite orders of thinking were recognised by both Plato and Aristotle, and by the latter were furnished with distinct names[1]: and the Divine order was regarded as pre-eminently, if not alone, entitled to the name of Intellect (νοῦς). Spinoza, on the other hand, limited the word to the apprehension and distinguishing of what is given, of Self from not-Self, of this from that; and denied intellect to God, precisely because, in an absolutely infinite Being, this condition fails: to him there is nothing *other* or external; else he would not be infinite and all-inclusive. 'If intellect belongs to the Divine nature,' he says, 'it cannot be, like ours, posterior to the objects understood, or simultaneous with them, since God is the antecedent Cause of them all; but, *vice versa*, their reality and objective essence is what it is, because it so exists ideally[2] in the intellect of God.' This priority to

[1] The πρότερον τῇ φύσει and the πρότερον πρὸς ἡμᾶς.

[2] Sed contra veritas et *formalis rerum essentia* ideo talis est, quia talis in Dei intellectu *existit objective*. For the meaning of this antithesis compare Descartes' Meditations, III, Cous. i, p. 272–275, where it will be observed that '*formellement ou éminemment*' = our *objectively*, or in the *external type of thing itself*: while '*réalité objective*' = our *subjective* or *ideal ascription of essentiality*. For instance, among our ideas, when compared *inter se*, those of *substances* have more independence than those of *qualities*; while our idea *of God* is still more self-sufficing than those of *created substances*; i. e. carries in it a higher character of being.

The mode in which the words *Subject* and *Object*, with their related adjectives and adverbs, have slipped into their modern meaning from one completely the inverse, is curious; and unless it is well understood, the literature of philosophy through the mediaeval period and down to the time of Wolff will often be unintelligible. The former word, like the Aristotelian ὑποκείμενον, of which it is a translation, denoted originally *anything* which exhibited properties, activity, or phenomena

the things known so completely, in Spinoza's opinion, destroys all analogy to our understanding, that the two can only equivocally receive the same name; 'just as the same word *dog* is applied to a constellation in the

—a *substantive* existence to which qualities and effects belonged; and this idea was expressed by any one of the three compounds, *subjectum*, *substantia*, *substratum*, employed as equivalents of the Greek. As the attributes or phenomena of a thing may always *be predicated of it*, the *Subject* was thus introduced into a *grammatical relation*, and came to denote the term in a sentence of which you predicate something. This is evidently not a different meaning of the word, but only the application to language of the meaning it already had in logic. So far, then, the word fitted any *substantive existence*: the fire was the subject of heat, snow of cold and whiteness, the bird of flight, the mind of thought. Hence it came to mark what *lay beneath* all phenomena and impressions, and was anchored in the nature of things, all the same whether this or that effect came out or not, and whether we missed it or whether we knew it; and thus it is that William Occam says, 'Subjective existence is that which constitutes, as it were, a reality in nature irrespective of the mind's ideas, and is no mere shape of thought.' Curiously enough, that which *was* a mere shape of thought, known only as such and unsecured beyond the mind, was designated by the other term of the antithesis, '*Objective*.' The source of this usage will appear on considering the difference between the conditions of a thing's *existence* and those of its *being known*. It may *exist*, though it be alone and in presence of nothing; but, in order to be known, it must be *thrown or presented* before a mind which it can affect and which can attend to it. Hence, this relative position or 'objectivity' became synonymous with an *affection of the mind by that to which it attends*, the idea or concept of which we are conscious, the contents of the act of thought within us, as distinguished from the thing without us; and Occam accordingly defines 'objective existence' to be 'the cognition itself, and in so far a kind of shape of thought' (ipsum cognosci, adeoque esse quoddam fictum). Thus the two words stand in the literature of the seventeenth and previous centuries with meanings which apparently change places with ours; the 'subject' denoting existence *in rerum naturâ*, 'the object,' existence in thought. As a good example of these meanings, I borrow a passage of Occam's from Prantl's Geschichte der Logik (1867), vol. iii, p. 357, note 808. 'A universal is not something real having subjective existence either in the mind or out of the mind; but it has only objective existence in the mind, and is a figment, having just such existence in the objective sphere of existence as the external thing has in the sphere of subjective existence; and this in such a way that the understanding, on seeing some reality outside the mind, feigns a similar thing in the mind; so that, if it had creative power, it would produce such a thing externally in the subjective sphere of existence, numerically distinct from the former, with resemblance and proportions like a workman's.'

It is a curious question how this usage could come to be changed? To answer it in full is impossible within the compass of a note: but one important link may be supplied. I have said that *anything*

heavens and to a barking animal.'[1] In this limitation of the word 'Intellect' to the human order of learning to know, Spinoza is far from consistent. In his *theology* it has

which had properties was a ὑποκείμενον, and that in rendering this, any one of three Latin words might be used—*subjectum*, *substantia*, *substratum*. When, in dealing with the problem of cognition, and criticizing the experience-philosophy, Kant endeavoured to assign their respective rights to the Mind itself on the one hand, and the field of experience on the other, the Ego was necessarily set up as a capital term over against all else as an antithetic non-Ego: it was no longer a mere member of a miscellaneous herd of natural substrata, on the same footing with anything that had attributes; but stood alone, as regulating by its constitution all else that was given to our knowledge. This primary position was marked by appropriating exclusively to the Ego one of three Latin terms which had been interchangeable: the word *Subject* was withdrawn from all other things that have attributes, and reserved for the self-conscious Mind alone; while the word *Substance* was either left in its old extension, or surrendered to the things in the non-Ego to which attributes had to be referred. This change moreover is not a mere division of the Latin words between the two spheres, leaving the 'substances' in the latter on a footing with the 'subject' in the former. The idealism of Kant set up the Ego as 'master of the situation,' and reduced all outer substances to its phenomena; so that nothing remained to be ὑποκείμενον except the mind itself. It is less easy to trace the alteration of the other word, though, as antithetic to 'Subject,' it would naturally be drawn into corresponding modifications. But, besides this, it was affected by a separate variation of its own. At first denoting, generally, whatever the mind might set up to think about, it was brought within narrower limits by Kant's doctrine that all *the 'matter' of thought* was supplied by the 'outer sense'; that, for the 'objective' action of the mind there must be mental *representations*, and for representations, *perceptive apprehension*. We are thus at once driven, with our word 'Object,' upon the *sensible world*, and compelled to wed the two together. And though, to the idealist who conducts us hither, the change effects no removal out of the mind into reality beyond it, but only a limitation within the mind to the special phenomena of *Sense*, yet the restriction, once introduced, passes into the current language of philosophy: it affects those also who are not idealists, but believe, like John Gerson, in a *ratio objectalis* inseparable from perception, carrying the mind's cognition not only inwards to its *own representation*, but outwards also to the *thing represented*. Thus the word Object, through its limitation to the faculty of 'Sense,' became transferred to that external world, the belief in which naturally clings to our experience as percipient beings. So complete an inversion of the meaning of technical terms in constant use, as this antithesis has undergone, is nowhere else to be found, so far as I am aware, in the history of philosophy. On this account I have thought it deserving of some explanation. See an excellent note of Trendelenburg's in his Elementa Logices Aristoteleae Adnotata, § 1 (p. 52), to which I am indebted for one of the citations from Occam.

[1] Ethic. I. xvii, Schol.

this *inductive* meaning, and is on this account removed from the predicates of God. In his *anthropology*, it is *contrasted with this inductive meaning* (which is referred to the 'Imagination')[1], and denotes the *identification of Thought with the necessity of things*[2], the intuitive apprehension of the supreme principle of Causality, and the deductive evolution of its determinate consequences, the coincidence, in short, of *our order of ideas* with *the real order of things*[3]. This it is which frees us from the thraldom of passion[4], and in its higher stage constitutes 'the intellectual love of God.'[5] It is true that in the anthropology, the word Intellectus is for the most part replaced by *Mens*, *Ratio*, *Cognitio*; but the process or act of the *Mens* is still said to be '*Intelligere*,' and that '*sub specie æternitatis*,' i. e. to 'conceive of things as implied in God and consequent on the necessity of the Divine nature.'[6] And we even meet with the proposition that 'infinite intellect comprises nothing but attributes and affections of God.' (Infinitus Intellectus nihil præter Dei attributa ejusque affectiones comprehendit[7].) What Spinoza denies to God is therefore something which he afterwards declares to be *less than intellect* in Man, and reduces accordingly to the inferior category of 'imagination' or lower 'ordo cognitionis.' In the difference of *order* between the human and the Divine intelligence there is nothing to prevent its *being intelligence* in both; whether it follows or precedes the genesis of the *cognita*, whilst it is *there*, it is *a cognitio*. Even if in the form of creative *fore*sight it had no counterpart in us, still, as objects and events, subsequent to their creation, no less continue to be Divinely known, and we have to speak of a present Omniscience as well as of a past pre-ordination, we cannot deny to the mind of God an intellectual apprehension indistinguishable in nature from

[1] Part II, Pr. xlii.
[2] Part II, Pr. xliv.
[3] Part II, Pr. xlvii.
[4] Part V, Pr. vi.
[5] Part V, Pr. xxxii, xxxiii.
[6] Part V, Pr. xxix, Scholium.
[7] Part II, Pr. iv.

our own. If the distinctions of time disappear in his infinitude, and melt into one the knowledge of future, present, and past, they cannot vanish from our cognition of him *as Cause*, with which alone we are here concerned; for this itself carries in it a 'before and after'; so that, relatively to us, he is presented as the intending originator of the cosmical order prior to all its beginnings, and as permanently cognizant of all its history. The mere difference of our *a posteriori* method from his has always been familiar to contemplative religious writers, and plays a great part in the books of devotion from the school of Eckhart and Tauler and the Theologia Germanica; but, instead of being felt as a difficulty in the doctrine of God, it has been applied to the humbling of man, and thence to the uplifting of his piety and the completeness of his self-abnegation.

Thus far, i. e. in deducing the predicates of power, of unity, of intellect, we have been concerned either with the *qualitative* attributes of God, as Cause; or, in the case of unity, with their numerical concentration. But as they operate in space and time, we cannot avoid the consideration of their *quantitative* range; and must ask ourselves in what terms we can warrantably speak of the *extent* and the *duration* of the Divine nature.

All our conclusions are at present to be drawn from the phenomena of the world. We certainly cannot affirm the cosmos which these phenomena constitute to be *infinite*; that it passes our little measures is no proof that it has no measure. So far as we can pretend to speak of it, it is *finite*; and as a conclusion must not go beyond its premisses, we cannot infer from it as an effect the infinitude of God as its Cause. If this be all, we can only speak of the Divine perfections as *indefinitely* great.

But from the primary Causality itself let us turn to its self-existent *condition*. *Space* we *can* affirm to be infinite; so that *one* of the two prerequisites of phenomena is in possession of the predicate which we are investigating, and offers it to the other, if the partnership can be made good.

There is unlimited scope; is there adequate resource to make use of it?

The Supreme Will can operate by planting out force either *in any points of space whatever*; or *in only some*. If in any whatever, then his potential causality is co-extensive with Space itself, and therefore infinite. If only in some, how is it excluded from the rest? Does the hindrance lie in *them* or in *itself*? Are they externally pre-occupied? or is it internally limited in its range? Take each of these cases in turn.

Is the space which the Creator leaves empty of his agency pre-occupied? It must be either by some phenomenon, or by some entity. If the former, then his Will, as sole power, is its cause; and the alleged external province lapses into the interior, and annexes itself to his being. If the latter, the entity which excludes him *ipso facto* exercises a repulsive causality; and as all causality is his, this too falls back within his dominion and proves to be no foreign territory. In no way therefore can he be finite by the presence of conterminous existence.

Is he so however by internal limitation, i. e. by having in himself a fixed range of being, subsisting in a circumambient void? If so, you might pass through that void, with exploring organs of divine apprehension, and, after a long blank, suddenly alight upon the edge of his presence; or *vice versa*, he might move from one portion of space where you were not into another where you were. He would thus become phenomenal, and raise, with respect to himself, the alternative questions which, in relation to all else, it is his function to lay to rest. We need a *Ratio sufficiens* to explain why the limits of his being are of *this* measure and not of *that*: why it is *here* in space and not *there*: for it might as well have been otherwise, so far as the definition of his essence is concerned. These are indeterminate possibilities; and we demand something to determine the selection from among them, just as much

as in the case of any other finite nature; i. e. we are compelled to treat such a being as *an effect*, and look beyond for some *other Will* on which this depends for its constitution. That other and determining Will then assumes the place of God, reducing the former into the position of a creature, and converting its alleged internal limitation into an external boundary to its power.

Thus it is impossible to maintain a disparity of scope between the Cause and the Condition of all things. They share the same dimensions; and though we cannot directly infer the infinitude of God from a limited creation, indirectly we may exclude every other position by resort to its unlimited scene of existence.

By a similar method of exclusions we may justify the assertion of the *eternity* of God. It is not necessary for this purpose to settle whether the cosmos itself, like all the events which compose its history, has had a beginning. If not, if the effect be eternal, the cause must be so too. But even in the other case, the pre-existence of the universal Cause cannot be limited; for, if there was ever a time in which as yet it was not, it has *come into being*, and is itself only a *phenomenon or effect*; which is a simple contradiction. *Its self-existence*, its *being other than phenomenon*, is its essential feature as a causal explanation of phenomena; it cannot therefore have a nativity, and must always have been *a parte ante*. Nor can it be subject to any limit *a parte post*; for this also would reduce it to a phenomenon, and bring it under the operation of some superior cause; to which, until similarly dispossessed, the supreme name and attributes would have to be made over.

To sum up then the results which are yielded by the principle of Causality: there is One universal Cause, the infinite and eternal seat of all power, an omniscient Mind, ordering all things for ends selected with perfect wisdom. Further advance we cannot securely make upon this line of thought; and were we only intellectual free agents, devoted wholly to the study of external nature, and

looking through it to its transcendent Source, here our religious apprehensions would stop: or rather, hence they would develop themselves into forms consonant with their origin. It would be interesting to seek, in the history of mankind, for actual religions constituted on this type and exhibit their overgrowth in one direction, their atrophy in another. But this fascinating by-path would withdraw us too far from our main track; and we must enter at once upon its next stage, which introduces us to a new and independent source of religious truth.

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